The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.*]

No. 2130.—VOL. XLVI. LONDON, SATURDAY, JUNE 17, 1876. [WITH SUPPLEMENT.] {PRICE ..... SIXPENCE. PER ANNUM, BY POST, £1 4 s.

Royal School of Mines.

PROF. SMYTH'S LECTURES ON MINING—No. XXXII.

[BY OUR SPECIAL REPORTER.]

We have considered the method of securing shafts till we get down to a sure foundation. In some cases the masonry is put together at the surface of the ground, and then lowered. In metallic mines, where the shafts are inclined according to the inclination of the vein, this plan cannot be adopted; consequently, where there is much water it has to be kept down by pumping. Even where other portions of the shaft are secured in another manner, as with timber, there will be considerable advantage in securing the upper portion by means of masonry. Where in the old shafts there was only a small area to be protected, our forefathers took a great deal of pains in securing them, and this was by no means thrown away, seeing that otherwise the shafts would have collapsed at the surface. It is too much the case now in metalliferous mines that they are not walled up to the top of the shaft, and consequently this part is forced in, giving rise to expenses and dangers, and leading in some cases to loss of life, and in all causing considerable risk. The means of securing against this would be to line up from a secure foundation the sides of the shaft with stonework. Then, when the mine is abandoned, the top might be covered up with a few large stones, and if it were required again the shaft would probably be found intact, otherwise it would be very likely to have collapsed and have fallen in.

We pass now to another part of the subject—the precautions which have to be taken to prevent the introduction of water into the shaft. In some cases this water may have to be battled with only for a time, in others it entails a grievous constant charge. These methods are known in England under the name of tubbing, or coffering, and the subject is one which had attracted very little attention before the commencement of the present century; since then, however, it has gone through several phases, and in many cases it has accomplished a great success. For example, several cases are known where at first a large array of engines had to be employed to pump out the water, but these have been tubbed so effectually that the mines have been worked quite dry. Tubbing comes into play very seldom in the case of lodes, for the lode being more or less vertical, it is little worth while attempting to protect the shaft, since the water will only make its way down somewhere else along the strike of the lode. Still certain dams may be put in in places, but the process never attains to anything like the importance that it does in stratified rocks. If we are sinking a shaft to intersect a lode at a certain point, and are troubled with water at the surface, it may then be worth while to tub out the water, but having once struck the vein the tubbing will be of no use. Suppose that with stratified rocks we have a district of hill and dale, and at some point intermediate between the highest and lowest ground we have to sink a shaft. If this shaft is situated in alluvial material, especially in a valley of a river, where the gravels probably extend to a great distance on each side, then it would be very inconvenient to sink through such ground. Similarly if there were alternating beds of alluvium, gravel, loose sand, and clay it might be a very difficult matter to get through such ground, in consequence of the great quantities of water and the looseness of the ground. If you get below the watery bed you will have the water pouring in, and may, perhaps, at once need a special engine to raise it. But if you can get down to some water-tight bed, and then put in a water-tight lining, then the water in the watery beds above will circulate round the shaft, but will not enter it, and the water may rise in the beds even to the surface, and thus escape. This would constitute a length of tubbing. In case you have no very considerable depth, yet the strata yield a large quantity of water, there is a considerable advantage gained if you can keep out the water by such means, and thus dispense with pumping arrangements. Having fixed this length the sinking can be continued, and if there be another watery seam a second length of tubbing may be put in, reaching to water-tight beds below. It may give more substantiality to the whole, and at the same time keep out other small quantities of water, if one length of tubbing is run up to the one above, so as to form one continuous length. After this you may come down into the coal measures, and there find another water-bearing bed, it may be sandstone loose in the grain, or greatly fissured and jointed; this you must sink through as best you can till you get down to an impervious bed, such as shale, where another length of tubbing can be introduced. In this manner you get your shaft down to the seam you wish to work, and under suitable conditions of strata, and proper precautions as to tubbing, this may be worked quite dry, although a series of difficulties has been met with in the upper ground. Mr. Potter, one of the viewers of the North of England, has given an admirable description of the sinking of the Merton pits in the Transactions of the Northern Institute of Mining Engineers. Many of the pits in the neighbourhood, after passing through the magnesian limestone, came at a depth of 50 to 76 fms. on a bed of sand, called the Lower Red Sandstone, which is apt to be extremely loose in places, and contains so much water as to be extremely fluid—in fact, a quicksand, and only to be managed with very great difficulty. Yet these difficulties have been overcome, they have withstood the quicksand, and the pits below are now worked dry. Another example of watery strata is to be found in the cretaceous beds of Belgium and North France, where the chalks and marls have been much fissured; but tubbing has been put down to the *tourtia* below, which is an impervious bed, and thus these pits are worked dry. At the Merton pits, mentioned above, the sand was cut at a depth of about 76 fms., and the quantity of water cut on reaching these beds was such that several sets of 19-inch pumps were put in, and for a long time 3582 gallons of water were raised per minute. This was quite insufficient, and more engines and pumps were erected, giving a total of 450-horse power engaged in the pumping. Before they succeeding in getting the water down for the purpose of putting in permanent tubbing a total of no less than 1584-horse power was at work in divers engines. After this it need not surprise us to find the expense of the plant and sinking of a colliery of this kind amount to from 50,000*l.* to 100,000*l.*, and even upwards. And it will also be seen that it would be impossible to work these mines economically without some such plan as tubbing being employed.

As regards the materials employed for tubbing we find brick and stone (generally put in with hydraulic mortar or Roman cement), wood, wrought-iron, and cast-iron. The form is in most instances circular with brick and stone, often rectangular, and in the case of wood, more especially on the Continent, may be polygonal. Before the kind and strength of tubbing for any particular case can be determined it is not enough for the mining engineer to make himself acquainted with the work generally, but he should examine any cases in the district which will throw light on the subject as to the depth at which the enemy is likely to be met with, and the quantity of water that may be likely to appear, for in some cases you might have the shaft acting as an Artesian well, or the water might reach the tubbing with a very great pressure, and you would, therefore, require special protection. The deeper you go down with any of these heads of water the stronger is the tubbing required, so that the tubbing will be tapered, as it is called—that is, it will increase in thickness downwards. Tubbing in masonry, although sometimes used in the midland districts, is not often carried out in this country, where the quantity of water is likely to be considerable, but in Westphalia and other districts a good deal of brickwork has been put in rectangular pits, with an arch on each side of the rectangle. A great many of these have failed, sometimes owing to the want of sufficient thickness, sometimes probably to the porosity of the brick, and in other cases from a settlement of the walling, causing cracks to take place. In some parts of Westphalia two, three, and four bricks thick have very commonly been put in where the pressure is considerable. In such cases great care has to be taken about getting a suitable foundation; the bed for the curb has to be very carefully cut, and every space wedged up, to prevent leakage. Little need be said about the tubbing of rectangular shafts with wood; as already mentioned, after the frames are brought together they may be caulked, and this method then serves to keep out a considerable quantity of water, but still it will not stand against any consi lerable pressure. In some districts it has been sought to strengthen it by putting in additional planks, slid into notches cut into vertical posts, and then stuffing the back with tightly packed moss. In the collieries of the North of England, at the end of the last century, a good many shafts were fitted with "plank tubbing." A broad curb, generally of segments of oak, is placed on a carefully cut bed, and at intervals above it are placed other and generally lighter curbs, supported temporarily by props. An enlargement of the shaft is made for the lower curb, and the space at the back of it is carefully filled up. As soon as a third curb is got into its place planks are spiked on all round the shaft. For the purpose of protecting the vital point—the junction of the lower curb with the bed—a second and lighter curb is often put in these in front, with usually lighter planking, against which the ropes, &c., may rub. Rising in this manner to the upper end of the difficult ground, the whole is secured by putting in another broad wedging curb at the top, projecting into the ground. The most difficult part to secure is the lower wedging curb, thin sheeting deal should be placed in the joints between the segments, and the space at the back also driven full of wedges, to bring the segments together; then the vertical joints should be opened, and wedges (generally of carefully cut pitch pine) driven in. This tubbing has sometimes given way, from the spikes being corroded by the water, or by the action of the smoke and gases from the furnace; or the planks gave way before a great pressure of water, and the mine was inundated. Copper spikes were used with better effect, but it was thought a great improvement when another form of tubbing, with strong blocks of wood, was introduced. This was used in a very few cases in the North of England, but it is largely used in the polygonal shafts of Belgium and France. In these two wedging curbs are often used, the upper one being much the broader; behind this latter a board is placed, and the space behind the board packed full of moss. Then by means of wedges the board is driven back, so as to compress the moss, and after it has been driven back some distance the wedges are taken out, inserted with the broad end downwards, and then other wedges driven in between. By this means the moss is considerably compressed, and a good water-tight joint is secured. Above this a second or third curb will be put in where difficulty is expected. Then above these are built up the solid blocks of wood, the vertical joints coinciding, but not the horizontal, and at the top another wedging curb is put in.

In England the methods of wooden tubbing have been very much replaced by cast-iron tubbing. In the first instance it was attempted to introduce entire rings of iron, but with deep shafts there were two serious objections—that the entire shaft had to be opened to get the ring down, and that when anything was wrong it was very difficult to carry out the repairs, so that very soon the use of segments became general. These segments were put in with flanges abutting against each other; these flanges were placed inside, for the greater convenience of securing the segments by bolts through them. But in consequence of the lowering the fixing and the side pressures to which the tubbing was exposed, it was found that screw bolts could not be trusted to. Hence it was proposed by Mr. Buddle to carry these down in a different way, to put the flanges outside, and trust to the wedging, to friction, and to the pressure from the sides to keep the segments together. The method of putting in this tubbing is very similar to that for putting in the solid blocks of tubbing of the Belgian method. One, two, or three wedging curbs are put in, and the space at the back filled with wedges; the vertical joints are lined with deal, and well wedged up. The tubbing is built up of plates, or segments, 1½ to 1⅝ in. thick; as the strength increases the plates are made shorter, from 1 ft. in the strongest part to 3 ft. in the upper portions. These segments are strengthened by flanges, and in the centre of each plate is a small hole for the escape of air and water during the building; these holes are plugged up from below when the tubbing is complete. When all is built up the final wedging is carried out by driving in wedges as long as the grain of wood between the joints can be opened with a chisel. When all due precautions are taken we may rely on the water being shut out. Curious accidents have occurred, those due to the pressure of air or gas being most notable. Air left behind with the water, or gas given off from some of the seams, has been so compressed as to make its way through joints impervious to water, and to blow out the wedges even. Care is taken, therefore, in a long length of tubbing to put in a long pipe from behind the tubbing up to the surface, to enable the gas to escape, and in some cases pipes have been similarly put in for relieving the pressure of the water.

DRAINAGE OF THE TAFF VALE DISTRICT.

An interesting paper on this subject, by Mr. ALEXANDER BASSETT, M.I.C.E., was taken as read at the last meeting of the South Wales Institute of Engineers, and by the courtesy of the author we are now enabled to subjoin an abstract of its contents. In considering the question, Mr. Bassett discusses, first, the necessity for the adoption of special provisions for drainage, then the best mode of disposing of sewage waters, and lastly the cost of works and the best mode of raising the capital required. The Taff Valley has practically four divisions—the main valley, extending from Cardiff to Merthyr; the Aberdare Valley, extending from Aberdare Junction to Aberdare; the Rhondda-Fawr Valley, extending from Pontypridd to Treherbert; and the Rhondda-Fach Valley, extending from Porth Junction to Ferndale. The length of the undrained valleys or districts, taking Treforest as the centre point, may be taken at 29 miles, including 6 miles from Pontypridd to Mountain Ash through a thinly-populated district, but if the drainage of Aberdare, Pontypridd, and the Rhondda Valleys is to be conveyed to the sea the total length of main sewer will be about 40 miles. The district includes 18,700 houses, with a population in 1876 of 117,300. The death rate is very high as compared with the average of the kingdom, and the importance of drainage was proved at Merthyr, where, previous to the introduction of sanitary measures, the death rate was 37 per 1000; this has been gradually reduced as the improvements have been made, until last year the average was but 21 per 1000.

As to disposing of the sewage waters, Mr. Bassett remarks that whether it be taken to the sea or be employed as a fertilising agent it must, in order to preserve the health of the district, be collected and carried away by culverts or pipes, so as not to pollute springs or river water, as the original cause of the outbreaks of fever that have taken place in the district has in almost every instance been traced to the use of polluted water. The rapid inclination of the valleys towards the sea will enable the sewage to be taken down by gravitation, which is in point of economy a very important feature, thereby dispensing with the costly machinery required for lifting the waters, which expedient has to be resorted to in many districts. The inclination being so very great, the velocity is thereby greatly increased, admitting economy being exercised by the adoption of a reduced area of culvert for the discharge of the required volume. The scheme is not suggested as a commercial undertaking, from which substantial profits will be obtained, but purely as a stern necessity, arising out of existing circumstances, in order to secure as far as possible the highest standard of health in the most important mining district in the country. Still if by any legitimate and safe means a revenue can be realised, any suggestions bearing upon the subject deserve consideration. He points out where the water can be employed as a fertilising agent—between the Rumney river and Marshfield. The improvement and utilisation of this land was first proposed by Mr. Basestt in 1871.

It would be rather hazardous, as Mr. Bassett suggests, to estimate the cost of works before sections are taken; roughly, however, he considers that the works connected with the main sewers (40 miles) ought efficiently to be executed for about 85,000*l.*, exclusive only of legal expenses, and compensation to be paid to owners of property. As regards the mode of raising the capital, he remarks that no doubt the amount could be obtained from insurance or other companies, provided the payment of the interest were secured by rates levied for that purpose under the powers of an Act of Parliament. The most equitable way of adjusting the payment would be for the Aberdare district to construct the sewer from that town to the junction at Treforest, and the Pontypridd and Rhondda districts the sewer from Treherbert and Ferndale to that point of junction. From Treforest to the sea the main sewer would be used jointly. Taking the total cost at 100,000*l.*, he calculates that if the capital be raised at 4*l.* 2s. 6d. per cent. per annum, and to be repaid after a fixed number of years, the annual charge would be under 4s. 1¾d. per house, but as this would, of course, be based on rateable value, it would not exceed 2s. 6d. or 3s. on each cottage. He has made provision in his scheme for a large increase in the production. The quantity of sewage water to be discharge per 24 hours has been estimated at 30 gallons per head of the present population. The culverts proposed will be capable of discharging this quantity in from five to six hours. It is quite clear that as the district is being developed, and the land occupied for building, every years delay will add to the cost of carrying the project into effect.

NORTH STAFFORDSHIRE MINING INSTITUTE.

The annual meeting of members was held on Monday, at Stoke-upon-Trent. The chair was taken by Mr. C. J. HOMER, the president for the past year.

Mr. JAMES ASHWORTH, of Burslem, exhibited various mining appliances of a useful character, including an Ingersoll rock drill, which, since it was introduced in 1871, has been improved, and is now regarded to be perfected. It will bore in any conceivable position, and in any kind of stone, hard or soft. It is portable, effective in action, and its feed is strictly automatic, so that skilled labourers are not necessary to direct it. Mr. Ashworth also showed one of Macdermott's hand drills, and a model of Dillwyn Smith's mechanical stoker for steam-boilers, as well as several cases of powder of different grains. Messrs. John Davis and Snow, Derby, showed a number of scientific instruments, including an improved Hedley dial, which "combines all the latest improvements of the best Hedley, with the outside vernier of the theodolite." The Walsall Rubber Company had a collection of useful articles, including a lamp, to which is attached an apparatus by which the wick can be lighted by turning a handle forming part of the lamp. It can be used for ordinary gas lamps, but it is particularly adapted for lamps to use at pit heads or at pit bottoms. They also exhibited some mine lamps, to which is attached the Automatic Company's patent for lighting without the use of matches. Each lamp can also be extinguished by a wirework from the outside. One of the lamps is so constructed that a miner cannot open it without extinguishing the light.

An important paper was read by Mr. John Williamson, manager of the Cannock and Rugeley Colliery Company's collieries at Hednesford, on "Fan *v.* Furnace Ventilation," in the course of which he stated that up to July, 1874, the Cannock and Rugeley pits were ventilated by furnace, and he gave a summary of the duty effected, adding that the consumption of coal for fourteen days, 70 tons, gave 467lbs. of coal per hour, equal to nearly 18¾lbs. per horse-power per hour. Considering the large consumption of fuel and other objectionable circumstances, the company decided to fix a Guibal fan, and sink a 16-ft. diameter shaft for an up-cast. The fan has been in use since July, 1874, there being now two down-cast shafts, each 12-ft. diameter, and one up-cast shaft 16-ft. diameter. The fan is 40-ft. diameter by 12-ft. wide, and is fixed in the surface at a distance of 50 yards from the top of the shaft. A 36-in. cylinder engine with 3-ft. stroke attached direct, works the fan, and there is a duplicate engine of the same size. A drift is turned out of the up-cast shaft at 18 yards from the shaft top, and is continued to the fan, of the same area as the shaft. After describing the method of preventing the leakage of air when the cages are drawn up, Mr. Williamson said:—"To keep a sufficient quantity of air circulating in the mines the fan has to make 35 revolutions per minute, and gives 190,000 cubic feet with 1·5 water gauge, and we get 66½ effective horse-power from the engine; then taking the quantity of air and the water gauge, we get about 44 horse-power or 66 per cent. of useful effect, the consumption of coal being 11lbs. per horse-power per hour, and 7½lbs. less than the furnace. The fan has made 50 revolutions per minute, with 3 1-10ths water gauge. At the bottom of each down-cast shaft the air is split into four sections, and carried into the workings for some distance before any more splits are made, and each main split has its own return to the bottom of the up-cast shaft. I find we get the greatest quantity of air with a low

barometer pressure, the barometer reading 28·30, and thermometer 40° on the surface, wind W.N.W. The least quantity we have got was on a thick foggy day, with the barometer standing at 29·60, and thermometer 40°, wind S.E., the fan making 35 revolutions per minute on each occasion. But by having a good counter and water gauge the engineman, by slightly varying the speed, can keep a uniform quantity of air passing through the mine. Every fan ought to be supplied with a duplicate engine, always ready for work in case the working engine should become disabled or otherwise, because it must be borne in mind that the quantity of air passing through the the mine is greatly diminished soon after the fan stops. From experiments I have made, I find that an hour after the fan has been stopped the quantity of air is 71 per cent. below the quantity got when the fan is at work, and giving 86,000 cubic feet per minute. At the end of two hours after the stoppage of the fan the quantity of air is reduced 81 per cent., and at the end of three, four, five and six hours after the fan has been stopped the loss of air remains at 81 per cent., the thermometer in the intake reading 58°, and in the return 68°, the depths of downcast and upcast shafts being 347 yards. The quantity of air circulating in the mine after the stoppage of the fan will depend on the difference of temperature between the intake and return airways. It should also be contrived that where fans are used there should be a large surplus of power ready for any emergency which might arise. Where this is done complete control will be obtained over the ventilation of mines, and where steam-pipes are used in the upcast shaft, a steam-jet could be easily applied during any unforeseen stoppage of the fan. It has been said that the question of cost for ventilating mines properly ought not to be a consideration if the Coal Mines Act of 1872 is properly carried out. I believe this principle has been acted on at many collieries, and there can be no doubt if there were more fans, with good reliable engines, good shafts, good airways, and the air properly distributed through the mines, and more attention paid to the ventilation, the gases drawn out of the mines not being allowed to accumulate in large quantities, we should not hear so much about explosions caused by shot firing. It is thought by some that we ought to have more comprehensive legislative enactments to prevent accidents taking place in or about mines; but provision is made by the Act of 1872 to enable employer and employed to do everything which is necessary, so far as human foresight goes, to prevent accidents occurring. Let the frequent violation of the general and special rules be avoided, and the number of accidents will be greatly diminished. I question whether there is anything better than a properly constructed fan for sweeping the underground workings and clearing the pits of foul air. With carefully revised data these appliances can be erected at a minimum of cost, proving in every respect economical, and still having such a reserve of ventilating power as to meet any contingency of falls in the airways, sudden outbursts of gas, or low barometer pressure."

Mr. Chambers, of Barnsley, next read a paper on Chambers and Jones's patent equilibrium slide valve, for which he received thanks.

The scrutineers (Messrs. G. Menzies and J. P. Goodall) reported the result of the balloting for officers as follows:—President, Mr. Daniel Adamson, Hyde Junction; vice-presidents, Messrs. G. Hunter, J. Macdonald, and T. S. Wilkinson; treasurer, Mr. J. G. Bakewell; secretary, Mr. W. Wells, Bladen; council, Messrs. J. Ashworth, G. Barker, R. Clive, Joseph Cox, T. M. Goddard, J. R. Haines, R. Heath, J. Lucas, J. Strick, John Salt, F. Silvester, and Benjamin Woodworth. The newly-elected president, on taking the chair, delivered a lengthy and able address. After the business of the meeting the annual dinner took place at the North Stafford Hotel.

BRISTOL MINING SCHOOL.—It is the practice of this school to devote one day per week to outdoor study, and the managers hope for the future to enlist the co-operation of the practical men of the neighbourhood, so far as to induce them to give the students the benefit of their local knowledge and experience. This plan was commenced on Tuesday at the Kingswood Collieries, when owing to the good offices of Mr. Handel Cossham, one of the mine officers, explained to the students the very complete coal washing arrangements that have been recently erected at these works.

PRECIOUS STONES IN BRAZIL.—A valuable paper on the "Valley of the Tibagy, Brazil," by Mr. Thomas P. Bigg Wither, A.I.C.E., was read before the Royal Geographical Society on Monday, and we think some portions of it will be of considerable interest to our readers. Mr. Wither visited the valley in 1874, when engaged in surveying for a line of railway. In the immediate vicinity of the Tibagy, he informs us, there are large deposits of clays and gravels, in which latter diamonds were first discovered about 30 years ago, and it was this discovery that led to the formation of the present town, which, though the diamond mines are now no longer worked, still gives evidence of prosperity. The working of these diamond mines was abandoned some four years ago, not on account of their exhaustion, but because the depth which the diamond-yielding stratum had then reached below the surface made their further operations no longer profitable with the limited resources at the disposal of those interested. Statistics obtained on the spot, and verified where possible from independent sources, and a careful examination of the mine itself, convinced Mr. Wither that though abandoned for the present it is yet capable of being worked with exceedingly profitable results. On resuming his journey from St. Jeronymo, and having passed the river of that name, Mr. Wither found that the geological formation underwent a change. In the place of sandstones and porphyries a reddish-brown amygdaloid rock, with its numerous little cavities lined with the green mineral chlorite, forms the body of the hills, and continues to be the dominant formation down to a point some distance below Jatahy, whence down to the Paranapanema sandstone, split up in all directions by dykes and large masses of greenstone, again takes possession. This amygdaloid formation extends in a south-westerly direction as far as the Jvahy Valley, where it assumes a somewhat different character, the cavities in its substance increasing greatly in size, and often containing agates of 4 and 5 ft. in diameter, which, when broken open, are found to be lined with brilliant and well-formed crystals of amethyst, and other varieties of quartz. These are the stones which some 250 years ago raised great expectations amongst the inhabitants of the province, a great number of them having been found in the bed of the Jvahy river by a party of so-called explorers (Mr. Wither said they were in reality slave-hunters), and by them mistaken for sapphires.

UNDERGROUND PUMPING-ENGINES.—At the Society of Engineers meeting, on Monday, in the Society's Hall, Westminster Chambers (Mr. V. Pendred, President, in the chair), a paper by Mr. Henry Davey, "On the Underground Pumping Machinery at the Erin Colliery, Westphalia," was read. The paper described what is probably the largest example of underground pumping-engines extant. The system, which was originated by the author, may be thus briefly described. In the mine (which is 1200 ft. deep) 920 ft. from the surface is placed a pair of compound differential pumping-engines, capable of raising 1400 gallons per minute to the surface, at the same time supplying power through the medium of the rising column to two differential hydraulic pumping-engines placed at bottom of the mine, and employed in lifting 1000 gallons per minute to the main engines. Steam is carried down to the main engines from the surface at a pressure of 70 lbs. per square inch. After passing through the engines it is condensed, and a vacuum of from 24 to 26 inches of mercury is obtained by means of a separate condenser, which produces at once the vacuum on the engine, and enables it to start to work against the full column. The methods employed for actuating the valves in the steam and hydraulic engines were also fully shown. In the latter case the valves are worked without any metallic connections by means of a modification of the differential gear. The paper was illustrated by detail drawings of the steam and hydraulic engines, and also of the separate condenser, as well as by working models of the machinery.—At the last monthly meeting of the Society of Engineers the following gentlemen were elected as members:—Messrs. Henry Clayton, jun., Francis Howlett, J. G. C. Ulrich, A. F. H. Plambeck, Frank Darkin, R. B. Austin, J. Bennett, F. S. Manners, J. T. Hall, S. Allen, Carl Pieper, and C. E. Bainbridge. As associates, Messrs. C. de Pass, M. Mildred, and W. S. Wilkins.]

THE IRON TRADE OF GERMANY.

As a supplement to the notes which we published in the Journal of June 3, it will be interesting to glean a few further particulars on this subject from a valuable report on the trade and commerce of the Rhenish provinces in 1875, which has been sent home by Mr. Crowe, Her Majesty's Consul-General at Dusseldorf. The iron trade was no better in 1875 than in 1874, and the depression was so great at the close of December that the most gloomy prophecies seemed justified. A brief study of statistics, however, may tend to dispel some of this despondency.

IRON ORE.—The number of mines in Germany, including Alsace and Lorraine, was 1228 in 1871, and 1588 in 1874. The produce was 4,000,000 tons in the former year, and after rising to 6,000,000 tons in 1873, it fell back to the same figure in 1874. The imports and exports of ore were, in round numbers—

	Imports.		Exports.
1871 ..... Tons	270,000	Tons	517,000
1873	460,000	.....	104,000
1874	248,000	.....	316,352
1875	235,000	.....	500,000

The value of iron ore produced in Prussia is estimated to have fallen from 1,500,000*l.* in 1873, to 1,000,000*l.* in 1874.

PIG-IRON.—The blast furnaces of Germany were 306 in number in 1871, and 475 in 1875; of which 70 were out of blast in 1873, and 104 in 1874, while it will probably be found that more still were blown out in 1875. The total production of pig-iron in Germany was 1,500,000 tons in 1871, 1,750,000 tons in 1872, 2,250,000 tons in 1873, and 1,750,000 tons in 1874. The imports of pig-iron rose from 500,000 tons in 1871 to 700,000 tons in 1873, and fell back to 130,000 tons in 1875. It may be mentioned that most of the pig imported is casting iron pig. Consul-General Crowe furnishes a detailed table of the prices which ruled at the Dusseldorf Exchange during each quarter of 1875.

RAW STEEL.—German production of raw steel rose from 200,000 tons in 1871 to 385,000 in 1874. In that year 54 per cent. of the steel produced was made in Bessemer furnaces.

RAILS.—The rolling mills of Germany turned out 450,000 tons of rails in 1871, and 645,000 tons in 1874. The imports never exceeded 45,000 tons, the exports 80,000 tons. Consul-General Crowe says that it is calculated that German railways—in length somewhat over 15,000 miles—require a yearly supply of rails of about 460,000 tons.

ANGLE IRON.—The production of Germany was 60,000 tons in 1871, and 95,000 tons in 1874. The imports were 6000 tons and 8500 tons in those years, while the exports rose from 355 tons in the former year to 5000 tons in the latter.

ROD, TYRES, PLATES, &C., OF IRON AND STEEL.—In this branch German works turned out 627,898 tons in 1871, and 743,250 tons in 1874; the imports in the same years being 29,439 tons and 26,875 tons, and in 1875 20,000 tons. The exports were 10,000 tons in 1871, and 37,000 tons in 1874.

IRON AND STEEL WIRE.—The same increase of production is apparent in this as in other branches—66,000 in 1871, and 85,000 tons in 1874. Imports increased in a somewhat similar proportion, from 1200 tons to 2000 tons, the exports rising at the same time from 6000 to 10,000 tons.

CAST-IRON WARES.—342,657 tons of these were made in German mills in 1871, and 480,000 tons in 1874. The import was 15,000 and 20,000 tons in each of these years respectively.

Consul-General Crowe considers that, closely examined, these statistics show that makers of pig-iron completely overstocked the market of Germany in 1873, and were forced in 1874 to the comparative inactivity which continued throughout 1875. Subsidiary to this we note diminished imports of ore and pig; but the production of raw steel, rails, angle-iron, rod, tyres, plates, wire, and cast-iron wares was higher in 1874 than in previous years, higher, too, in 1875 than in 1874, whilst imports of all classes of large hardware, except angle-iron and wire, were gradually and steadily decreasing.

A word, in conclusion, as to the effect of the slackness in the iron trade and a general reduction of industrial wages on the labouring classes of the country. Notwithstanding these, Her Majesty's Consul-General finds that the country districts still complain of want of hands. Statistics show that more than 5000 persons wandered from Eastern Prussia to the Rhenish provinces and Westphalia in 1873 and 1874. This current of migration is explained by the high demand for wages of male and female labourers and farm servants in the Palatinate and the valley of the Lower Rhine.

THE SOUTH STAFFORDSHIRE MINES DRAINAGE DIFFICULTY.

Communications from two of the leading mining and ironmaking concerns in the Bilston district of South Staffordshire show how serious is the position in which the Mines Drainage scheme is now found. Mr. DANIEL GROUCUTT (of Messrs. GROUCUTT and SONS, iron and coal masters of Bilston), whose letter was read at a meeting of the Bilston coalowners, held recently at the offices of the Mines Drainage Commissioners, in Wolverhampton, when it was resolved to recommend the Commissioners to levy no rate for the year ensuing, setting out dangers that were likely to follow the suspension of the work, has further communicated to the local papers; this time combatting the sentiments expressed by Mr. ABRAHAM HILL, the coalmaster who lead the opposition. Concurrently Mr. JOHN W. SPARROW, ironmaster and colliery owner of the same district, publishes his views. The deductions at which these gentlemen arrive have the gravest possible aspect in respect to the coal and iron industries throughout the busiest localities in the South Staffordshire field. Broadly stated these gentlemen assert that to stop the work of the Commissioners by declining to contribute to the expenses will lead to the loss of 5,000,000 tons of coal, and the closing of many ironworks. Setting down the value of the coal at 8s. per ton, to leave it underground would be the abandoning of that which in the market would realise 2,000,000*l.* sterling, or if that sum should be capitalised at 5 per cent. we have a loss in perpetuity of 100,000*l.* per annum. If it should be thought that though the work may be abandoned for a time during the low price of fuel it could well be taken up when coal is worth much more money, the reply is that the work of the Commissioners abandoned now will be forever abandoned, inasmuch as the water would then rise to so great a height that to get it down again would involve a work which no one would have courage enough to attack. If the engines which are now pumping should be stopped it is generally admitted that the water would rise at once up to the new mine coal, drowning out each colliery as far as the New Mine coal hollows extend. In its rise 22 collieries, which are now at work, would be drowned out.

Here is a result serious enough in all conscience to cause alarm. It would seem to cause no alarm to the majority at the meeting when the resolution to recommend the cessation of work was determined upon, but it is explained that that majority have very small interests in comparison with the minority; indeed that they are but one-third of the whole, estimating them by the property which they have at stake. We do not care here to go into the question of the circumstances under which the minority in value are working the mines in their hands, nor are we prepared to join in any outcry about the want of patriotism which they are showing in attempting to stop the commissioners in their works. There is always something to be said on both sides. It is so here. These men assert that if they should have to pay a sixpenny rate they could not sell their coal at other than a serious loss. Such being their views they are proceeding only according to the tenor of the Act when they try to detach their district from the area over which the Commissioners have jurisdiction. It should, however, be considered by them whether their business interests are likely to be so largely affected as they assume. If they can get the mines which they are working without being compelled to pump, or requiring other people to pump for them, the Commissioners have no powers by whose enforcement they can compel them to pay anything whatever towards the drainage of the district. And if these people can show that by their own pumping they contribute either to their own relief or to the relief of their neighbours their rates would be proportionately reduced. But if any of them should think that though they are working shallow seams, and are thereby contributing to the letting down of water to mines in the deep, yet that by escaping from the rate altogether they shall be able to lay upon others the whole of a burden which they ought themselves in part to bear, every principle of fairness should lead them to pause before, in their attempt to escape responsibilities which are perfectly fair, they risk consequences which will speedily ruin others, and which in due time will assuredly find them out. The working of the Act, as we have sketched it, is equitable; and even if it were possible that if the Act should cease to operate the water would not rise to the height indicated, no colliery worker could, we think, drain his mine at less than 6d. per ton in such a broken district as that about Bilston. We are inclined to hope that a careful consideration of the facts, and a complete knowledge of the way in which the rates could be graduated may induce these people to withdraw their opposition, and attempt, certainly for another year, to uphold the hands of the Commissioners.

We are the more wishful that this may be so because it is shown how, by the continued working of the engines now pumping, a course may be practicable by which coal and ironstone now submerged may speedily be unwatered. Mr. SPARROW says—"Nothing can be more plain than this, that the five engines would still continue to pump the whole of the water if a connection was made in the blue flats instead of the new mine, and if this was done the pound of water between the flats and the new mine would disappear without one farthing of extra cost, and would immediately liberate an enormous quantity of lower mines. The first step to be taken to accomplish so desirable an object would be to pierce the rib in the flats between Sandy Gay and Barber's Field pounds. This may be done at a trifling expense, and may be done as soon as the Sandy Gay engines are again at blast." The objectors, if they intend to avail themselves of this proposed benefit, must not delay the withdrawal of their opposition. Mr. SPARROW is working at a cost of 80*l.* per week, borne almost wholly by himself, two of these five engines (the Stowheath and the Bilston), and they are doing work which seems almost necessary to the preventing of the catastrophe foreshadowed. At the close of last year Mr. SPARROW said that he could not continue to pump at this enormous cost unless colliery owners who were benefited by what he was doing contributed to the outlay. A meeting, reported in the Journal at the time, was held, and promises were forthcoming, but those promises have been fulfilled in only a slight degree. Mr. SPARROW has now served a legal notice upon the secretary to the Mines Drainage Commissioners that his firm have made up their minds to stop the Stowheath and Bilston pumps on Saturday, July 1 next. We have the personal assurance of Mr. SPARROW that he does not intend this as a mere ruse; that he shall certainly carry out the notice if, as now, he is then left practically unaided. And we may state that to stop the Stowheath engine, which is pumping 1400 gallons of water per minute, will be to stop the Bilston engine, which is pumping 500 gallons, and the Sandy Gay engines, which are pumping 700 gallons. It would not be fair, however, to leave on the minds of our readers the impression that all the difficulties which now threaten this Bilston district would be overcome, even if the smaller colliery workers should consent to pay what may fairly be claimed under a sixpenny rate. As we pointed out a fortnight ago, such a rate will scarcely do one-half of that which it is necessary should be done if the district is to be freed from the water with which it is now contending. This, at the least, implies the carrying out in its entirety the scheme of voluntary aid which was agreed upon at the meeting in December last; or if not that, then the making of some other arrangement whereby voluntary aid may be forthcoming. Comparatively needy and wealthy men alike, interested in the working of the coal mines in South Staffordshire, must together put their shoulders to the wheel if this 5,000,000 tons of coal is to be saved, and all disasters prevented which its loss to such a district implies.

ROYAL CORNWALL POLYTECHNIC SOCIETY.—The prize list for the present session has just been issued, and many of the premiums offered are certainly worthy the attention of those engaged about mines; thus a premium is offered for improvements in pump valves for use in mines, and prizes are offered to workmen and apprentices for a complete set of models or drawings of all the various pump valves in use in mines, and of all the steam valves now or formerly used in the Cornish mining engines. There are also special premiums for ore-dressing machines, collections of ore, and for papers on the improved treatment of ores and minerals; for the most exact account of the phenomena of mineral veins in any mine or district, their dip direction, variations in productiveness, slides, heaves, &c., and for accurately drawn cross sections of Cornish. Mr. Kitto, the secretary, will forward the prize lists to intending competitors upon being applied to at the Society's Hall, Falmouth.

FAILURE OF AN IRONMASTER—LIABILITIES 170,000*l.*—At the Bankruptcy Court, on Thursday, an application was made to Mr. Registrar Brougham (chief judge) for the appointment of a receiver to the estate of John Henry Garbutt, who has presented a petition for liquidation, describing himself of King William-street, and Doughty-street, London; of Darlington, Durham; and of the Newton Colliery, Castleford, Yorkshire, coalowner, and coal, coke, and iron merchant. Mr. J. D. Miller now applied for the appointment of Mr. G. E. Swithinbank, accountant, Lawrence Pountney-lane, Cannon-street, as receiver of the estate. He said the petition for liquidation was filed on the 14th inst., the liabilities being estimated at 170,000*l.* The assets consisted of freehold land and buildings, the Newton Colliery, the Workington Colliery, the Evenwood Colliery, movable plant, stock, household and office furniture, and book debts, bonds, and mortgages, estimated to amount to 50,000*l.* Actions had been commenced against the debtor in various divisions of the High Court, and it was important in the interest of the estate further proceedings should be stayed. The Registrar granted the application. The creditors are principally resident in Yorkshire and the mining districts.

CAST FLANGED PIPES.—The invention of Mr. S. ROBERTS, of West Bromwich, consists in making those parts of the moulds in which the flanges of the pipes and other flanged articles are cast by fixing on the core-bar, at the required distance apart, annular collars or rings of a hollow or trough form, the said collars having holes in them through which cores to form the holes in the cast flanges are inserted. A pattern is used having "prints," or broad collars, at its ends, the said "prints" of the pattern forming a cylindrical space at each end of the mould to receive the collars on the core-bar, and also to form those parts of the mould in which the flanges of the pipe are cast. The inner faces of the collars on the core-bar are coated with loam, and when the core-bar and its collars have been put in their places in the mould the cores in the said collars project into the flange parts of the mould, and, after the mould-boxes have been fixed together, the mould is ready for the casting operation.

MANUFACTURE OF CHROMATES.—The invention of Mr. JOSEPH TOWNSEND, of Glasgow, has for its object to improve and render less costly the processes employed in making chromates, and consists essentially in using a mixture of lime and magnesia, or of their carbonates, in processes in which hitherto lime has been used alone, or along with other substances.

NOVEL REGULATOR.—Mr. W. F. STANLEY, of Great Turnstile, Holborn, has invented some ingenious machines or clocks to register conditions of the atmosphere and to keep correct time. These improvements have for object the ascertaining of the pressure and the temperature of the atmosphere, also of equalising these, so that a clock may go at a regular rate. The improvements are applied to the construction of the pendulum and to a method of calculating time, pressure, or temperature numerically. The novelties of this invention are—causing a barometer or thermometer to oscillate with a pendulum or as a pendulum, and of calculating time, tempe-

rature, or pressure by the oscillations instead of by the ordinary division into hours, degrees, or inches. All the improvements may be applied to one machine, except such parts as are equivalent one to the other; this will be necessary generally for meteorological observations, or any part may be applied separately to any kind of clock.

MINING AND STOCK EXCHANGE NEWS OF THE WEEK.

Messrs. F. W. MANSELL and Co. (Sworn Stock and Share Brokers), Pinner's Hall, Old Broad-street, write to us as follows:—

I.X.L. (Gold and Silver).—Shareholders will have learnt with satisfaction that active operations have been resumed, and as the mines are provided with efficient pumping and other machinery the various explorations will soon be in course of vigorous prosecution, It should be remembered that the rich "bonanza" cut in one of the upper drifts some years since created an intense excitement upon the Pacific Coast, and that the 200 ft. level will quickly intersect this "bonanza" at this deeper point. When one bears in mind that the "bonanza" in the Virginia Consolidated upon the Comstock lode (in the same mineral belt) has proved continuously richer at each successive lower level, the importance of cutting the "bonanza" in the I.X.L. 200 ft. level cannot possibly be over estimated. Originally 10,000*l.* was the amount considered abundant to purchase and erect the mill, and to place the mine in full working order; the company now have over 30,000*l.*, so that there are ample funds for every possible contingency, leaving a large sum for the establishment of a reserve fund.

EXCHEQUER (Gold and Silver).—Mr. Lewis Chalmers has returned from Peavine thoroughly satisfied with the O'Hara furnace and its special adaptability for the successful treatment of the Exchequer ore. It may be mentioned that this description of furnace has been for some time past in successful operation at the Consolidated Poe Mine, in Nevada. At this mine the ore is crushed through a 10-stamp dry battery, whence it is elevated continuously as it discharges from the battery to a large hopper, from which it feeds into the O'Hara Champion Chlorodising Furnace. The ore is moved by mechanical arrangement through the flames for the space of 200 ft., and passes out on the cooling hearth, from which it is discharged regularly in the car, ready for the amalgamating pans. The furnace is a double one of two hearths, and is 110 ft. long, 4½ ft. wide, and 14 ft. high. The arches over the roasting hearths are 8 in. from the hearths, confining the heat directly to the ore. There is one fire chamber for the upper hearth and two for the lower hearth. The ore is moved by an endless chain with two iron frames, on which are fastened a series of ploughs so arranged that one is a little behind the other, so that each following plough turns the ore over into the furrow that the first one has made. The ore is turned to the right and then to the left every two minutes, and every time the ploughs pass through the ore it moves a few inches ahead. The ore moves in contact with the flames, and is heated up evenly and gradually until it reaches the first fire, when it falls to the lower hearth, where the heat increases, and is then moved back to the end of the furnace through the flames of the two fires, and after passing the last fire it is moved and turned over a space of 15 ft. on a cooling-hearth, and discharged into the car cool, ready for amalgamating. There are no chemicals used in the ore but chloride of sodium (common salt). When the ore gets under a low heat the sulphur commences to burn, the lead, antimony, zinc, iron, copper, and other base metals change to a sulphate, caused by the superheated steam laying through the flames and oxygen from the atmosphere. When the ore falls to the lower hearth the most of the base metals are oxidised, while the silver remains as a sulphate. Now, from 5 to 8 per cent. of salt is fed into the ore from a hopper that discharges about 1 lb. every time the ploughs pass along. The ore being under an increased heat, with the oxygen from the atmosphere mixing with the flame caused by the draught, and also superheated steam, causes chemical changes to take place, and thereby changes the silver and gold to a chloride. The sulphates decompose; the sulphur liberated unites with oxygen and hydrogen, creating sulphuric acid, which attacks the salt, decomposes it, and liberates the chlorine gas from the soda; silver, having a strong affinity for chlorine, takes up a portion, and is converted into a chloride of silver, which is easily amalgamated when brought in contact with mercury in an iron pan. We will next week draw further attention to this newly-introduced furnace, which seems destined to remove all difficulties in the successful treatment of rebellious ores. As far as the mine is concerned, every point of operation is proceeding satisfactorily; the engine-shaft is down 356 ft.; the north drift from the 200 is in 434 ft., and in fine quartz and clay mixed. The 140 ft. winze was again all ready for stoping; the 300 ft. level would be ready in a few days, as also the 200. The general developments continue most encouraging.

EBERHARDT AND AURORA (Silver).—The bullion (valued at 22,000*l.*) in transit to this country will, it is calculated, leave a profit of about 14,000*l.* The respective "developments" at the mine are being pushed forward, and the indications in the bottom of the incline are very favourable. The site for the tunnel has been located, and a force of men are now in active work. The most approved machinery will be in position at a very early date, so that no time will be lost in continuing the tunnel through the bad weather of the ensuing winter. The North Aurora section of the property is yielding its usual quantity of high-grade ore. It is understood that as soon as the bullion now in transit arrives a dividend will at once be declared. Large transactions have taken place in the shares at advancing quotations, and close firmly at the highest point.

WEST PATELEY BRIDGE LEAD MINES.—The statutory meeting was held last week; the information obtained was completely satisfactory. Seldom or ever has it been our lot to visit a mine that within four months after the commencement of operations is returning mineral in paying quantities, one tribute point yielding a profit of something like 50 per cent. to the company. We have already mentioned that this property immediately adjoins the Pateley Bridge Mines, and contains its richest veins; that it is traversed by 12 masterly lodes, and possesses features for an economical and vigorous developement unequalled by any mine even in this favourably situated locality. Drained by a main day level to a depth of nearly 60 fms., pumping machinery is unnecessary, and the ground available for stoping amounting to an enormous extent. Not being weighted with heavy capital, and the working costs necessarily small, a comparatively limited output of (say) not more than 50 tons per month will yield dividends equal in amount to the shareholders as 100 tons from a mine with what may be considered the prescriptive capital of lead mines. With but few exceptions our home lead mines have capitals averaging from 30,000*l.* to 45,000*l.* divided into 12,000 shares. To bring about a given result mines thus incorporated must necessarily return more than double the amount of lead than those with a capital of 20,000*l.* divided into 4000, which is the financial constitution of the West Pateley Bridge Lead Mines Company. It is not too much to say that inordinate capital has done more harm to mining than anything else, and it is pleasing to find that, as in this case, a judicious step has been taken in the opposite direction. Not infrequently is a productive mine made profitless to its shareholders by heaviness of capital, large returns failing to yield divisible profits, the capital being out of all proportion to the dividend-yielding capacity of the mine. If mines were introduced upon an equitable basis as between shareholders and former owners, results would invariably be much more satisfactory. Upon this fundamentally sound principle the West Pateley Bridge Lead Mines Company has been formed; hence there has been contributed an almost exceptional element towards increasing the shareholders' prosperity, because the efficient developement of the property has been the more completely secured. When upon the mines last week we made it our special business to glean from all available sources every tittle of information obtainable; and while setting apart the extraordinary statements made to us as to the riches the mines yielded when worked some 70 years since, throughout the whole there is a substratum of facts which can be otherwise corroborated, showing that great riches were realised, although the operations were conducted in the most primitive manner, and under the most difficult circumstances. The enormous surface excavations upon the Rake vein for half a mile in length and many fathoms in width, coupled with the debris on the surface, demonstrate that many thousands of tons of lead must have been extracted from this single lode. The ancients worked as deep as water would allow them, leaving the vein in the sole of the excavation as rich as at any previous point. Its masterly character is further shown by the fact that in Pateley Bridge Mines it has three distinct ribs of solid lead, valued at 200*l.* per fathom. This is only one of 12 known rich veins which will be quickly and inexpensively tapped by means of the main day level at a depth of nearly 60 fms. from surface. One of the important points to be almost immediately determined is the cutting of the Craven Cross vein; hitherto this has never been touched except it has been exceedingly rich, and it is reported to have gone down from near the surface containing solid lead 1 yard in thickness. Surely these are facts fortifying the miners' statement in the locality, that "'Tis the very best trial in the district." Since the meeting the shares have been enquired for at full quotations.

PATELEY BRIDGE LEAD MINES AND SMELTING COMPANY.—The various explorations in depth continue to open out good courses of ore. The Lumb vein is worth 13*l.* per fathom; Fielding's vein, in the east cross-cut, is worth 18*l.* per fathom; in the roof, 17*l.*; and in the south-east end, 12*l.* per fathom. Pringap vein is producing good lead ore. The Sun vein, in Gillfield level, continues to gradually improve in the east drivage from the bottom of the shaft, where, under the level, it is 4 ft. 6 in. in width, worth from 15*l.* to 16*l.* per fathom for lead ore. The vein in the stope over this level is 6 ft. wide, worth 18*l.* per fathom. Smelting will be resumed next week.

STOCK EXCHANGE GENERAL MARKETS.—The adjustment of the fortnightly settlement has been the prominent feature of the week, more importance having been attached to it in consequence of the eager response the markets had previously made to what was the obvious intention of the statement regarding prospects in the East made by the Prime Minister. The tone of the statement was evidently designed to lull suspicion to sleep, and to give occasion for the comfortable assurance that diplomacy may yet succeed in smoothing away the difficulties that have threatened the peace of Europe. Without too narrow an investigation of the precise terms in which the Prime Minister sought to convey this announcement, operators and speculators hailed the unquestionable fact that the English Government desires it to be concluded that they regard the situation with hopefulness; and, after the alarms and apprehensions that have been rife of late, it was natural that this alone should have had an appreciable effect in the sensitive atmosphere of the Stock Exchange. There has been a decided rally in those securities that have lately suffered the greatest depreciation, as operators for the fall who had been large sellers rushed to close their accounts. Money continues very abundant, and the tendency towards greater ease is unmistakable. The Bank of England directors made no change in the discount rate at their meeting on Thursday, and it is scarcely necessary to add none was expected. The exceptionally strong position of the Bank has become considerably stronger, the stock of bullion having increased to over 27,500,000*l.* It appears as if the largest amount recorded to have been ever held by the Bank is likely to be soon exceeded. The proportion of assets to liabilities has advanced during the week more than 3 per cent.—in other words, from 50¾ to 53¾. The Bank rate continues at 2 per cent.; the next settling day will be June 29.

RAILWAYS.—This market has been firm, stimulated in a degree by the rumour that the Select Committee now sitting will recommend some modification of the passenger tax, but, if true, how it has been permitted to leak out is most difficult to understand. Naturally, the short distance passenger lines were more cheerful under the influence of the news, and as usual any benefit to be derived from a reduction or removal of the tax is likely to be "well discounted" before being officially announced. The condition of the "account" showed that the speculations for the fall had been considerable, and this was borne out by the premium paid to avoid delivery.

FOREIGN BONDS.—Russian bonds have been the first to respond to the improvement, and Egyptians followed the lead. The persistent sales of Russian bonds must have let loose a good deal of money which is likely to seek employment in Government securities. The supply of two or three descriptions at the settlement was short, and speculative sellers were obliged to pay heavily to defer delivery. In Argentine as much as 3 per cent. was paid, being at the rate of over 70 per cent. per annum, while for several of the Russian issues ½ to ¾ per cent. was the current rate. It is hardly necessary to say that there is no home investment demand, but from Berlin some orders continue to come for Russia, which are still being sold in small parcels by timorous holders here. Since the settlement there has not been much animation in this department, but purchases have been made of Egyptian and Russian on continental account. An intimation of a probable payment to the holders of Uruguay bonds exercised a stimulating influence on this stock. Peruvian flatter; the more the recent contract is looked into the less it is liked, and Spanish is lower from the uncertain news regarding the intentions of the Government of the Peninsula.

THE WEEK.

SATURDAY, JUNE 10.—Owing to the Premier's satisfactory statement in the House of Commons last night a large proportion of the recent sellers were buyers to a man to-day, and their purchases led to a very important change for the better both in the foreign and railway markets. Some of the Russian issues, where large margins exist between the buying and selling prices, advanced from 3 to 5 per cent. Hungarian (1874 and 1873) rose 3 per cent., and Argentine (1868), 2½ per cent., to 61½, 62½. Egyptians were also in demand, the 1873 Loan going up 1¾, to 37. Turks were 13*l.* 13s. 9d. to 13*l.* 15s. 3s. In railways the chief feature was the 2 per cent. rise in Brighton A, which of late has been much depressed. Dover A and Berwick each rose 1¼. There was a general opinion that a further rise would be seen on Monday, notwithstanding that it is the last day of the present account. Eries, 12¾ to 12⅝; Ottoman Bank, 4⅛ to 4⅜; Direct Cable, 6⅞ to 7⅛; Anglo, 54⅞ to 55⅛; Hudson Bay shares, 17 to 17½, a further fall of 10s.; General Credit, 5⅛ to 5⅞; Credit Foncier, 1 to 1¼. Mining shares were rather offered. Eberhardt, Great Laxey, and Richmond each falling 10s.; Argentine, 6 to 6½; Pateley Bridge, 3¾ to 4¼; East Van, 9½ to 9¾; Penstruthal, ⅜ to ⅞; Sweetland Creek, ¾ to 1¼.

MONDAY.—There was increased firmness to-day, and the upward movement made further progress. There was an average rise of 1¼ in Russians; Hungarian Five per Cent. of 1871 advanced 3 per cent. Egyptians showed firmness throughout the day, the 1873 Loan at one period touching 39; the closing price, however, was only 37⅝ to 37⅞. A feature of the day was the firmness in Argentine, which, as usual just on the eve of making up, were braced up in order to exact backwardation from "bears," and then tumble all to pieces again. The 1868 Loan has improved 2, to 63¼, 64¼. Turkish Fives, 13⅝ to 13¾; ditto Six per Cent., 1871, 20¼ to 20¼. Peruvians, 14 to 14¼. Spanish, 13⅜ to 13½. Paraquay, 1872, 6 to 8. Railways, though not in all instances closing at the best, had a good rise. Berwicks improved 2½, to 154½, 154⅞; Chatham and Dover Preference, 1¾, to 64¾; Caledonian and Dover A rose 1¼. The increase on the Brighton Railway was 7275*l.*, and on the South-Eastern 7323*l.* Metropolitan were at one time in good demand, but fell away in the afternoon. It was rumoured, however, that a rise was coming off. Imperial Ottoman, 4⅝ to 4⅞; Anglo-Australian Bank, 5½ to 6. The directors of the Australian Agricultural Company will recommend a dividend of 2*l.* 5s. per share, making 4*l.* 5s. for the year; present price, 88 to 90. Scottish Australian stock was offered at 160. In mines Wheal Greenville fell to 1*l.*; Marke Valley were offered at 1¾, and Pennerley were dealt in at 2. Penstruthal, ⅝ to ⅞; Parys Mountain, 18s. to 20s.; Aberdaunant, 10s. to 15s.; New Quebrada, 3⅞ to 4½; Port Phillip, ⅛ to ⅜.

TUESDAY (Continuation Day).—The backwardation paid on Argentine averaged 3*l.* per hundred, which "bears" cheerfully paid, and, having arranged their accounts, sold the bonds with such zest that at the close the 1868 and 1872 Loans had fallen 5*l.*, and that of 1871 3¼. Russians in like manner fell from 1 to 2 per cent., the fall being greatest in the 1822 Loan. Egyptians were carried over even at 37½. Among railways, Berwicks, Midlands, and Birminghams were found to be greatly oversold, and had to be borrowed at from ⅛ to ¼ back. Some complaint was made about the making up price of Berwicks, which was fixed by the Clerks of the House at 155. Rule 82 says the making up price shall be fixed "by taking the average price between eleven and two o'clock on each of the two days preceding the account, and between eleven and a quarter to one on the settling day, and it is difficult to see how such a process could carry Berwicks so high. The old rumour as to the remission of the passenger duty was made to do duty late in the afternoon, the result being a rise of 2½ in Metropolitans, 1⅝ in districts, and 1½ in South Easterns and Chathams. Berwicks were very heavy all day, and in the end closed at 154. Caledonian, 109⅞ to 110½. Dover, A, 113½ to 113⅝. Grand Trunk, 7⅝ to 7¾. Lombard Obligations, 9⅛ to 9⅝. Rai way Debenture Trust, 6½ to 7. Imperial Credit, 7¼ to 7½. General Credit, 5¼ to 6. National Discount shares fell 5s., being offered at 7½. The variations in mines comprised a fall of 10s. in Great Laxey, and one of 5s. in Exchequer. Richmond, 8⅝ to 8⅞ (week's run, 842,000). Alomillos, 2 to 2¼. Sierra Buttes, ¾ to 1¼. Javali, ⅛ to ⅜.

WEDNESDAY (Name Day).—Railways were in strong demand at the opening, and until late in the afternoon remained firm at an improvement, when they were offered, and declined generally, but not more than to the extent of a quarter on the whole. The exceptions were Metropolitan, which from 100¾ fell to 99¼, Dover A from 114¼ to 113¾, and British from 96⅛ to 95¼. The latter, however, closed at an improvement on yesterday. Berwicks were again heavy throughout the day, closing 154 to 154¼; traffic increase 890*l.* Fears are entertained of a large strike among the colliers in Durham. Foreign stocks were firm, notwithstanding a rumour that the armistice has been rejected. Egyptians being scarce for settlement at Paris advanced to 39. The North British traffic shows an increase of 35*l.*, the Midland increase of 27,767*l.*, the Birmingham an increase of 947*l.*, the Great Western an increase of 13,834*l.*, the Great Eastern an increase of 10,630*l.*, and the Metropolitan an increase of 1590*l.*

THURSDAY.—Stimulated by further buying on the part of the French, Egyptians went up from 39¼ to 41¼; and though the last price was 1 per cent. below this, a good rise on the day was shown. At Paris they were dealt in as high as 41⅝, but declined there, too, in the evening. The settlement was concluded to-day without a single mishap, and operators, finding themselves free for another fortnight, sold railway stocks rather heavily. Brighton A collapsed very readily, dropping from 95 to 93½; next in order North British and Dover A showed most weakness, each falling 1 per cent. Caledonian, 109⅝ to 109⅞; Great Eastern, 38¼ to 39; York A, 133⅛ to 134; Metropolitan, 98¼ to 99; North British, 94⅛ to 94½. The directors of the Atlas Steel and Iron Works will recommend a 10 per cent. dividend, inclusive of the interim one paid last December. Peruvians were sold; the new contract with the Messrs. Raphael being even less liked than the Paris one. Gradually but surely this South American Republic is educating its bondholders as to their hopeless condition. The Six per Cents. closed 18⅛ to 18¾, and the Fives 13⅝ to 13⅞. The shares of the Newfoundland Company were dealt in at 10s., a rise of 5s. Richmond, 8½ to 9; Eberhardt, 8⅞ to 9⅛.

FRIDAY.—The Stock Exchange has been thrown into a state of great excitement by the announcement that Hussen Pacha and Rachid Pasha, Ministers of War and Foreign Affairs, had been assassinated. Consols at once fell ¼ per cent. Though doubted by some, it bears all the marks of genuineness, and has exercised a sinister influence on prices. Turkish Fives, from 13⅞, have dropped to 12½, and Egyptians, 1873, from 40⅜ to 38½. Brighton A, North British, and Dover A have all fallen quite 1 per cent., being 92½, 93¼, and 111½. Sheffields are down to 62½, and Great Western to 103¼.—*Two o'Clock.*—Consols have greatly recovered, and most of the railways are much better. Sheffield and Great Western are quite 1 per cent. higher. British, 93⅛ to 93¾; Dover A, 111⅛ to 111¾; Brighton A, 92⅞ to 93; Berwich, 153½ to 153¾; Great Western, 104⅛ to 104⅝; Egyptians are 39.—*Four o'Clock.*—A further decided recovery has taken place. Egyptians are 39⅛ to 40, and Turkish Fives 13 3 16ths to 13 5-16ths. In railways, Metropolitan, from being 98⅛, are now 99⅜ to 100. Brighton A and Berwick have each improved a further ¾. Sheffields are 63½ to 63¾, and Caledonian 110. So far beyond confirming the first telegram no further intelligence has been received from Constantinople. The late Minister of War was a man of determined energy, given more to acting than reflecting, and at one time seemed desirous of forcing on a war with Servia at all hazards.—*Birchin-lane, June 16.* FERDINAND R. KIRE.

DEEP MINING SHAFTS IN EUROPE.

Twenty years ago the deepest mining shafts in the world reached only about 2000 ft. below the surface. The very deepest, we believe, was a metalliferous mine in Hanover, which has been carried down to the depth of 2290 ft. The deepest perpendicular shaft to-day is the Adalbert shaft in a silver-lead mine in Prizibram, in Bohemia, which has reached a depth of 3280 ft. The attainment of that depth was made the occasion of a three days festival, and still further noticed by the striking off of a large number of commemorative silver medals of the value of a florin each. There is no record of the beginning of work on this mine, although its written history goes back to 1527. Quite recently an elegant commemorative volume has been written and printed, which is most interesting to those who have a taste for either the actualities or antiquities of mining industry. There are two other localities, however, where a greater depth has been reached than at the Adalbert shaft, but not in a perpendicular line. These are—1. The Rocksalt bore-hole, near Sperenberg, not far from Berlin, which a few years ago had been bored to a depth of 4175 ft.—2. The coal mine of Viviers Remus, in Belgium, where the miners, by shaft sinking together with boring, have reached a total depth of 3542 ft. Turning from these two mines, no shaft in unbroken perpendicular line has as yet exceeded the depth of 3280 ft. Taking each singly, the deepest shafts in the world at the present moment group themselves according to the following order:—

1.—The already-mentioned Adalbert shaft, 3280 ft. deep. As the top of this shaft is 1732 ft. above the sea level, the bottom is, of course, 1548 ft. below it.

2.—Two shafts near Gilly, in Belgium, are sunk to the depth of 2847 ft. At this depth they were both connected by a horizontal drift, from there an exploring shaft is sunk to a further depth of 666 ft., and from there again a trial hole, 49 ft. in depth, is put down, so that the total depth reached is 3542 ft. As they did not in the bore-hole discover the sought-for coal seam, they have returned to the shaft at the 2847-ft. level.

3.—The Eimgkerts shaft of the Lugauer Coal Mining Company, Rhenania, Lugau, in the kingdom of Saxony, is 2653 ft. deep.

4.—The Sampson shaft of the Oberhartz Lead and Silver Mining Works, near St. Andreasberg, Hanover, has a depth of 2437 ft., is at present the deepest shaft of Prussian mining.

5.—The winding shaft of the Rosebridge Colliery, near Wigan, Lancashire, England, has a depth of 2458 ft. Coal is drawn from the "hanging on" at the 2418 ft. level; the time of the cage running this distance being 55 seconds; the winding rope has, therefore, an average speed of 44 ft. per second.

6.—A shaft at the coal mines of St. Luke, near St. Chaumont, in the Loire department, France, reaches 2253 ft.

7.—The shaft of the Dunkirk Colliery, near Dunkinfield, Lancashire, is 2069 ft. deep, but the mining is prosecuted to a further depth of 755 ft. by shafts from the lower levels, making a total depth of the mine of 2824 ft.

8.—The deepest shaft of the collieries near Ronchamp, in France, is 1881 ft. A similar depth has been reached by the argentiferous mine near Kongsberg, in Norway. The mines belonging to the Roros Copper Works, in Norway, have worked to the depth of from 2540 ft. to 4270 ft.

9.—The Amalia shaft in the mine works near Schemnitz, in Hungary, 1782 ft.

10.—The No. 1 Camphausen shaft, near Fishbach, in the department of the Saarbruck Collieries, has now reached the depth of 1650 ft., and may possibly become the deepest shaft in Prussian coal mining.

Although the depths to which the shafts enumerated have penetrated into the interior of the earth in the art and practice of mining may appear mighty, and may be an expressive witness of the great progress made in mining pursuits, yet, on the other hand, the above results may be considered insignificantly small when we compare them with the extent of the earths' crust and the diameter of the earth. The deepest bore-hole in the world is the artesian spring at Potsdam, in Missouri, which reaches a depth of 5500 ft.

MANUFACTURE OF BRICKS.—A metal disc is, according to the invention of Mr. CHARLES EMMET, of Leeds, provided with holes or moulds corresponding in shape with articles to be formed, intermittent rotary motion being conveyed by drag, bar, or rod, a check arrangement preventing the disc being dragged too far. Each hole is fed from hopper, and the contents of hole are rammed or pressed, and the pressed brick or other form pushed out on to a travelling sheet.

STEAM BOILERS AND FURNACES.—The object of the invention of Messrs. Smith and Lester, of Chicago, United States, is the complete combustion of the combustible gases by subjecting them to the intense heat of a blast with accelerating the draught through the grate. The said invention comprises a narrow throat at the rear end of the grate, through which these waste gases mixed with fresh air may be compelled to pass at an accelerated velocity, and in contact with a mass of intensely burning fuel, whereby the temperature is so raised that combustion is made complete.

GELATINISING NITROGLYCERINE.—The object of the invention of Mr. A. NOBEL, of Paris, is to convert at the ordinary temperature liquid explosive substances, such as nitroglycerine or the nitrates of methyle, ethyle, amyle, and nitrobenzine, into a viscid or pasty state. To this end these substances are incorporated with another substance which is capable of gelatinising or thickening them, and a substance is chosen by preference which will detract little or nothing from their explosive force.

TUNNELLING MACHINERY.—According to the invention of Major BEAUMONT, of Westminster Chambers, a revolving borehead carries a number of steel cutters arranged in steps receding on each side from the centre, so that when it is brought against the face of a soft stratum, such as chalk, and rotated, each cutter will scrape away the face of the chalk in the form of a circular ledge somewhat in advance of the next cutter outside it. The borehead is constructed in the shape of two or more radial arms, which as they rotate allow

time between the passage of each arm for the removal of the debris. The borehead may consist of separate parts revolving at different speeds.

GEOLOGICAL SOCIETY OF LONDON.

June 7, 1876.—Prof. P. MARTIN DUNCAN, M.B., F.R.S. (President), in the chair.

John Thomas Atkinson, Selby, Yorkshire; Edmund Clark, B.A., B.Sc., York, and Street, Somersetshire; Frederick Derry, Upper Hockley-street, Vyse-street, Birmingham; Walter Soper Gervis, M.D., West-street, Ashburton, Devon; Thomas Jones, jun., Clytha-square, Newport, Monmouthshire; Baldwin Latham, M.Inst.C.E., Westminster Chambers, Victoria-street, and Parkhill Rise, Croydon; and Edward Sewell, M.A., Ilkley College, near Leeds, were elected Fellows of the society. Melville Attwood, mining engineer, Bush-street, San Francisco, and R. M. Moore, mining engineer, Catherine-street, Whitehaven, were proposed as Fellows of the society.

1.—"On the British Fossil Cretaceous Birds," by Harry Govier Seeley, F.L.S., F.G.S., Professor of Physical Geography in Bedford College, London.

2.—"On two Chimæroid Jaws from the Lower Greensand of New Zealand," by E. T. Newton, F.G.S., of H. M. Geological Survey.

3.—"On a Bone Bed in the Lower Coal Measures, with an enumeration of the Fish Remains of which it is principally composed," by J. W. Davis, F.L.S., F.G.S.

In this paper the author described a thin bed composed chiefly of remains of fishes, which rests immediately upon the "Better-bed Coal" of the Lower Coal Measures in Yorkshire. The bed varies from a quarter to five-eighths of an inch in thickness, and is overlain by a thick bed of blue argillaceous shale, containing remains of plants. The author described the order of the deposits both above and below the "Bone-bed," and gave a list of the organisms of which remains are found in the latter, including species of Gyracanthus, Ctenacanthus, Lepracanthus, Acanthodes, Pleuracanthus, Orthacanthus, Diplodus, Pleurodus, Helodus, Cladodus, Pœcilodus, Petalodus, Harpacodus, Ctenoptychius, Megalichthys, Holoptychius, Strepsodus, Acrolepis, Platysomus, Acanthodopsis, Amphicentrum, Rhizodopsis, Cycloptychius, Gyrolepis, Palœoniscus, Cœlacanthus, and Ctenodus. The author also described spines which he regarded as indicating two new genera of Elasmobranchs, one probably allied to Pleuracanthus, and the other (Hoplonchus) allied to Onchus and Homacanthus. Bones belonging to the Labyrinthodont genus Loxomma are met with rarely in the deposit.

Sir PHILIP EGERTON remarked upon the evidence of the advantage to geological progress of the activity of local observers furnished by the detection and thorough working out of this bone bed which, being about ½ in. thick, would in all probability have entirely evaded the notice of geologists not resident in the immediate district. Local observers—he did not mean mere collectors, but men who knew how to follow out a course of investigation indicated by the local phenomena noticed by them—ought in every way to be encouraged. He said that *Onchus* is one of the most difficult genera of fossil fishes; it is essentially an Old Red type, but extends up into the carboniferous limestone, and even into the coal measures, from which Agassiz described one species under the name of *O. acuminatus*. This will, in all probability, prove to belong to Mr. Davis's new genus *Hoplonchus*. He approved of the author's proposed union of the two supposed species of *Gyracanthus*, and agreed with him in his determination of the *Cœlacanthi*. To show the generality and wide distribution of the characteristic forms of this formation he mentioned that M. Dewalque had recently furnished him with examples of several of the species from Central Russia.

Mr. ETHERIDGE remarked that its relation to the better-bed coal gave this bone-bed a perfectly definite geological horizon.

4.—"Note on a species of Foraminifera from the Carboniferous formation of Sumatra," by M. Jules Huguenin. Communicated by Prof. Ramsay, F.R.S., V.P.G.S.

5.—"On the Triassic Rocks of Somerset and Devon," by W. A. E. Ussher, F.G.S.

The author stated that the Trias of Devon and Somerset was divisible into three groups, occupying distinct areas. The first lies north of the Mendip Hills, where the Trias is thinnest and assumes its simplest characters, consisting of marls and dolomitic conglomerate, the former predominating, the latter not only occurring as a basement series, but in some cases persisting continuously upwards as the marginal equivalent of the marl, as Rhætic beds overlie both alike. South of the Mendips the Trias is similarly constituted, but is of much greater thickness. The second area embraces the country south of the Polden Hills as far as a north and south line through Taunton. The chief portion of the Trias in this area, as in the northern, consists of marls; but unless the breccias of Wembdon, near Bridgewater, are portions of a basement series, faulted up, but elsewhere concealed, the lower division consists of sandstones found resting on the flanks of the Quantocks, flanking outliers of the older rocks, and here and there faulted up.

In the lower parts of the marls in the Vale of Taunton and other places occasional beds of sandstone are found, which from their position may be regarded as equivalent to the Upper Keuper Sandstone of Professor Hull. The sandstones of this area differ from the conglomerates of the Mendip country in occupying a definite subordinate horizon to the marls, and not dovetailing into them. The third area, bounded on the north by the Bristol Channel, on the south by the English Channel, on the east by the Blackdown range, and on the west by the Culm and Devonian highlands, presents the most complex relations of the Trias in the south-western counties. The upper member of the series, as in the other districts, consists of marls; they contain occasionally thin beds of sandstone towards the base, which may be considered, although apparently of local occurrence, as Upper Keuper Sandstone. They are unconformably overlain by sandstones. In these two upper divisions we have the continuation of the whole Triassic series of the second area; and in the third underlying division conglomerate and pebble-beds. From Watchet to a point west of Wellington this division is represented by hard bedded conglomerate, thence to the south coast by sands with rounded grains and pebbles, at first of quartz grit and slate, gradually giving place to the large foreign-derived quartzites of Budleigh Salterton.

A second series of marls is found to underlie the conglomerate and pebble-beds conformably. This attains as much as 500 ft. in thickness near the south coast, but in the northern part of the district does not appear to exceed 200 ft.

The base of the series is composed of sandstone, breccia, and occasionally clays, occurring at different horizons in different parts of the area, and each variety locally predominant over the others. The clay beds appear to be confined to the neighbourhoods of Exeter and Crediton. The upper part of the division south of Bradninch seems to consist of Red Sandstones, the lowermost and principal part of the division consisting of breccia. North of Bradninch the sandstone occupies the principal portion of the division, sometimes apparently to the exclusion of the breccia. Towards Wiveliscombe the upper part of the series for from 15 to 30 feet consists of breccia and breccia-conglomerate, the major part consisting, as before, of sandstones. North of Wiveliscombe breccia begins to prevail, and in the Stogumber valley principally represents the division. Owing to the conformity of the various members of this latter group, they appear to represent continuous deposition. We might fairly consider the upper marls and sandstone as representing the Keuper, as their average thickness taken together can scarcely be under 1000 ft. The lowermost sandstone and breccia may be taken as equivalents of part of the Bunter, as they are probably 1000 ft. thick near the south coast, and 300 where least devoloped. The representation of the Muschelkalk would lie then between the conglomerate, or Lower Marl divisions, and the one rejected be incorporated with Keuper or Bunter.

Mr. ETHERIDGE remarked that the Rhætics form a most important feature in Somersetshire. He thought that the ignorance of the Triassic rocks so common among geologists was to be ascribed to a great extent to the want of interest attaching to these non-fossiliferous red beds, and hence our thanks were due to those who, like Mr. Ussher, would work upon them.

Prof. RAMSAY said that Sir Henry de la Beche grouped the whole of the Triassic rocks together, but nevertheless there was no doubt that he fully understood their nature. In passing over part of the country he had once fancied that some of the lower breccias might be Permian, but he had never been able to investigate the matter.

The AUTHOR remarked that if the Lower Breccias were Permian there was no reason why the Bunter and Muschelkalk might not be so also.

THE MAGNETO-INDUCTION MACHINE.

BY DR. EDUARD ZETZSCHE.

The principle of these machines (Von Hefner-Alteneck's system) is founded on the fact that a current is induced in a closed circuit when a portion of such circuit is introduced between a magnet whose opposite poles face each other. The direction of the induced current depends on the position of the poles with relation to the direction of the motion. The poles of a psrmanent steel magnet or of an electro-magnet can be employed; in the latter case, the electro-dynamic principle—discovered independently by Dr. Werner Siemens and Professor Wheatstone—comes into play. By this principle the current of the machine is itself instrumental in exciting the electro-magnestism, by adding strength to the remanent magnetism originally present in the cores of the electro-magnet. The conductor in Hefner's machine is a covered copper wire, which, for an electric light apparatus, is wound in eight separate parts upon a German-silver cylinder, and parallel to the axis of the cylinder. The coils entirely surround the cylinder.

The exterior of the wire cylinder is partially surrounded at opposite sides, above and below, by bent iron bars, these bars inclosing about a third of the circumference of the cylinder, and being at right angles to its axis. There are as many of these bars as the length of the cylinder will admit of, and they form the cores of the electro-magnets. The bars are nowhere at a greater distance from the wire cylinder than is necessary for the latter to revolve. The two sets of bars or poles form magnetic fields of high intensity through which the wires of the bobbin move. To combine the opposite currents induced in the separate coils into a current of common direction the circumference of the cylinder is divided into eight equal parts, covered with two wires of eqnal length, coiled one over the other. These wires have sixteen ends, which are led through hollow pivots on the cylinder to a commutator plate that revolves with the wire cylinder. This commutator comprises eight metal sectors arranged on a plate, but separated from each other by narrow radial spaces.

At two places, diametrically opposite, a metal wheel is pressed against the commutator plate by means of a strong spring. These two metal wheels form the electrical poles of the machine, and are connected to suitable terminal screws. Between these electrical poles, and joined to them by leading wires, is placed the lamp with its carbon points. From the poles flows on the one side a negative and on the other side a positive current, always in one direction. As long as this external circuit remains open the machine requires an impelling force scarcely exceeding that necessary to overcome friction. With a closed circuit the quantity of electricity generated by the machine, and at the same time the work consumed by it, increase rapidly; and a small increase in the speed of revolution of the bobbin gives considerable augmentation of the current. The intensity of the magnetic field is increased—and consequently the current-intensity—by a fixed iron core placed inside the hollow wire cylinder. As this fixed position prevents the occurrence of Foucault's currents in the iron core, the machine gains, inasmuch as these currents involve unnecessary consumption of work, and give rise to heating.

In smaller machines, however, in which saving of force is not so important, the advantages derived from fixing the iron core will not always outweigh the benefits of simple construction, and in such instances it is better to let the iron core revolve with the wire coils. At the same time, to reduce these Foucault currents to a minimum as far as practicable, the core should not be made of massve iron, but of coils of iron wire wound on a wooden cylinder. There is described, besides the electric-light machine (which at 450 revolutions per minute, gives a light equal to that of 14,000 normal candles), a small machine suited for physical laboratories, which, with an internal resistance of half a Siemens unit, and at two revolutions per second, gives a current equal to that from 10 Bunsen elements joined in series.

(Dingler's Polytechnisches Journal, Band)—Proceedings of the Institution of Civil Engineers, by JAMES FORREST.

MINING.

There are few more legitimate enterprises than mining, if properly conducted. Taking the amount of capital invested, and the profits which have been derived from mining, no form of investment will be found to have made greater aggregate returns. The reason why it does not stand so high as, under the circumstances, it ought is that in estimating returns the past is for the most part overlooked, and the present alone considered. As in other undertakings, there must be in mining, moments not only of special but of general depression. From causes which are beyond control, prices occasionally fall so much as to make production unprofitable for a time. The same occurs in all branches of industry. It also happens that lodes whose appearance gave the fairest promise of a bright future suddenly fail; but with time and perseverance they may for the most part be again reached. Such are the natural vicissitudes to which all human affairs are liable, and on which the calculations for life and other kinds of assurance are based, where, by spreading the capital over a number of cases, a fair average is obtained. There can be no doubt that by exercising due care and discretion in making the selection of stocks a great deal of the risk which is supposed to attend mining operations may be avoided. Should, in addition, the system be followed of placing the money at disposal in several different mines, each selected with equal care, the chances of loss may be reduced to a minimum. Looking, indeed, at mining as a whole, there appears to be no form of joint stock enterprise which offers so many attractions to investors, whether considered as regards security or remuneration. There can, however, be no doubt that the management which has been followed in many mines has been so extravagant that it was impossible, unless under exceptional circumstances, to make them pay; and this has been the frequent cause of bringing most unmerited disrepute on mining generally. A great deal of the blame must rest on the shareholders themselves, who, by their supineness and inattention to their own interests, too often allow the most flagrant abuses to pass unnoticed. For this reason the old Cost book System, when the company working a mine was composed of a few persons, all of whom took an active part in the superintendence, was most eligible, from its simplicity and fair dealing, and nothing could be more suitable at the time this plan was in vogue. The necessary outlays were then comparatively small, and the requisite sums were found in the immediate neighbourhood. Now this is entirely changed; costly machinery is required, and the capital necessary is usually drawn from the larger cities, where money generally accumulates. Under these circumstances, it is impossible for the shareholders who have other avocations, to exert the same active supervision which was easy in the former instance, and the Cost book System, with its unlimited liability, would virtually cause them to place, not only their interest in the mines, but their fortunes, at the disposal of those who were on the spot. There are also many other inconveniences attached to the system which are avoided by the adoption of the principle of limited liability. Its advantages are already generally acknowledged, and the many abuses which used to exist are gradually yielding to the influence of this better plan. For these reasons I advocate the general introduction of limited liability as being most suited to the exigencies of the times.

The last three years have been particularly unfavourable to mining interests generally, and peculiarly to those of Cornwall and Devon. There has been a state of depression in the duchy which is almost unparalled. The change took place at a time when Cornish mining was enjoying a period of great prosperity. Copper and tin were commanding unusually high prices. Speculation set in on a great scale simultaneously with the rise. The markets became unduly inflated, and fictitious values were established for sales which had only their existence on paper. As a consequence, foreign production was fostered by the high quotations reached. Importations on a large scale took place from all quarters. So sudden was the increase of stocks thus produced, and so great the dread that it was only the forerunner of still further supplies which would come in, that sales were suddenly checked. Speculators who had been dealing on credit found themselves saddled with contracts they could not carry out in the face of a falling market. A panic was the natural result. The metal markets, which had been buoyed up by worthless paper, collapsed, and prices declined with a rapidity great in proportion to the suddenness of the increase which had previously taken place. About this time the prices of coal, material, and wages began to rise, until the famine point, from which all branches of industry have suffered, was reached. Our mines in Cornwall had thus to meet a foreign competition never previously known under conditions of difficulty which had never before been exampled. That they have been able to resist in so far as they have done the immense strain thus put upon them is a proof of their real intrinsic merit, and gives the best grounds for anticipating that when affairs shall have returned to their normal channel they will again become sources of national wealth. One point is clear, that if prices were to continue at figures which make profitable mining in England impossible, with all the advantages we possess in fuel, mechanical appliances, and skilled labour, it will be only in a very few instances that foreign producers will be able to continue exporting to us, with all the disadvantages they labour under of heavy freights and the want of those very essentials in which we are rich. That this is already beginning to be felt is clear from the news received from the tin districts of Australia, where the stream tin mines, whose working is the least expensive that exists, are found not to be paying speculations at present prices, and are being for the time abandoned for more lucrative employments. What has taken place with regard to tin has done so also, to a certain degree, in copper, as is evinced by the strikes on the part of the copper miners reported from the same quarter.

Looking dispassionately at the present state of mining in Cornwall, and in other counties producing copper and tin, it is evident that the existing state of depression is due rather to a series of unfavourable circumstances in this country than to foreign competition. All branches of trade and industry are alike suffering from the same causes. Mining, as being peculiarly sensitive to such influences, is doing so to a greater degree than most others. When the recovery begins to set in, as there is every appearance of its doing, though the settlement of the labour question may delay it for some short time, mining will at once begin to recover; but, as we have called into existence a very formidable foreign production, we must set about introducing all those improvements and labour-saving appliances which may enable us to produce our ores at the cheapest possible rates. Many years ago, when Captain Trevethick introduced his great improvements into the pumping-engines used in Cornwall, the mining of the duchy was in a similar condition to that which it is now, with this exception, that, instead of being of a passing nature, it had become chronic. His varied inventions gave it new life. The same must be done now, and we need not fear for the future. To do so will, no doubt, cost considerable outlays of money, but when capitalists see fair prospects of handsome returns there will be no lack of funds for any legitimate purposes.

There are already unmistakeable signs of a recovery in mining, and when it does commence in earnest we shall have only good sound enterprises, the weak having been weeded out. The great point which must be attended to in order to ensure success is in the appointment of directors and managers. No matter how intrinsically good an affair is it cannot be successful if badly managed. I would always insist on the greatest care being exercised in the choice of the officers to whom the management of a company is to be entrusted, and I would desire particularly to impress the necessity of this being more especially attended to in the case of mining, where everything depends on the manner in which it is conducted. In selecting mines it may be generally presumed that those situated in highly mineralised districts and in the vicinity of productive properties will prove profitable. No better augury can be furnished of the future of a young mine than is derived from the nature of the locality in which it is placed, and in my selection for the attention of capitalists the greatest care has been taken. Notwithstanding the fluctuations that have taken place with metals in general, lead has maintained a steady price, and is likely to continue to do so. Shares in well selected lead mines at the present time offer unusual attractions to the investor, but it requires caution to secure considerable returns.

What can be the reason for so many people to regard this class of investment with a degree of suspicion requires, thought on the part of advisers. Those who have made large fortunes by great rises in market value and immense dividends do not stand at the corners of the streets and acquaint the world with their wonderful gains, but they do with their losses, and warn others against mining shares, instead, rather, of blaming themselves for trusting their interests to the care of those who greedily take the commission without thought of the benefit to the client. Coming in contact with so many disappointed capitalists, I generally enquire the names of those mines in which they had invested, and although I must admit, in some cases, failure from low classed ores or other contingencies, still too frequently the promoter starves the property to enrich his pocket, whereas if the mine or mines had been properly conducted fair returns would in all human probability have resulted. I maintain that the selection of mining shares requires more than ordinary precaution, but with a conscientious adviser the result will be surprising to the most sanguine capitalist. The public seem now, however, to dwell upon the blanks, and not the prizes. The following are the results from the workings of four lead mines, meetings being held recently:—The first paid a dividend at the rate of 50 per cent. upon the capital, and carried forward 1000*l.* to the reserve fund—in other words, the mine has paid 600,000*l.* for 60,000*l.*; the second declared a dividend of 10*s.* per share, or over 20 per cent.; the third exhibited a profit of over 5000*l.* for the half-year; whilst the fourth, in the last half-year, made a profit of 11,935*l.* upon a capital of 50,000*l.*, and this has been done whilst the property in as good a position as it was before. This latter has been in operation for 20 years, during which time 84,000 tons of ore have been extracted. The 84,000 tons have produced actually 54,950 tons of lead, the gross value of which has been 1,170,560*l.* The dividends that have been paid during that period have been 144,791*l.*, being an amount of 5*l.* 15*s.* 10*d.* per 2*l.* share. The company was at one time in considerable financial difficulty; they borrowed 15,000*l.* All that money has been repaid, and there is an abundance of floating capital. They began with a capital account of 50,000*l.*, which was spent in mines, buildings, and materials, and 4000*l.* beyond. They have written off from profits from time to time in order to supply a working capital of no less than 20,794*l.* The smelting works have cost an additional 5800*l.*, and yet with all that the buildings now stand at a debit of 39,000*l.*, instead of 50,000*l.*, which was the original capital. The reserve capital is now 6058*l.* It is hardly possible to find a company that throughout its period of existence can present a more flourishing aspect than this has done, and does at this present moment. To accomplish all this work there have been driven 20,000 yards and upwards, or more than 11¾ miles of levels. The aggregate shafts have been sunk 4790 yards, or 2¾ miles. The winzes are 5390 yards, which are equivalent to 3 miles. The Chairman very truly said that this would, perhaps, hardly strike one at the moment, but it is actually a perforation of about 10 ft. by 6 ft. as high as the extreme point of the Himalaya down to the ocean level, or equal to two shafts of that size from the height of Mont Blanc to the level of the sea. Surely at a time like this, when millions of the public money have been lost in foreign loans and foreign trusts of one kind and another, instances of successful mining like these deserve to be recorded

— From "How and When to Invest," by E. J. BARTLETT.

MOULDING BRICKS AND TILES.—The invention of Messrs. CRAVEN, of Wakefield, relates to machinery or apparatus to be employed for moulding bricks, tiles, and other similar articles, from semi-dry clay or other suitable material, and consists of a peculiar construction and arrangement of parts whereby the clay or other material is automatically fed into the mould and compressed therein between an upper or lower piston in such a manner as to expel the confined air from the clay, and release the latter from adhesion to the upper piston, the bricks or other articles so formed being finally delivered from the mould in a finished state ready to be dried or baked.

FURNACE BARS.—The invention of Mr. WILLIAM FINLAY, of Red Hill, relates to an improved fire-bar made with a thin flat horizontal plate having air openings rapidly increasing in breadth or diameter from the top to the bottom, and a central vertical longitudinal web beneath, plate and web being strongly supported by brackets at inversals. This invention also relates to an improved carrying-bar, made with openings through which the ashes from the fuel drop freely into the ashpit below, and which permit a uniform and constant admission of air, no matter how many lengths of fire-bars are used in the furnace.

A MECHANICAL HORSE AND STEAM MAN.—Among the curiosities the Centennial Exhibition has produced are a mechanical horse and some steam men. These automata are said to be simple in construction, and very satisfactory in their movements.

THE ALMADA AND TIRITO CONSOLIDATED SILVER MINING COMPANY (LIMITED).

MINA GRANDE AND DIOS PADRE.

Frank W. Breach, March 30: The 12 fm. level in Mina Grande improves, but is very hard. The tunnel end wanted only 15 ft. to reach the Dios Padre on Saturday last, and is in the same ground, hard, but favourable for driving. In the rise south of the end we still have some good stones of ore—green and black about equally mixed, but without zinc.

April 6.—The Mina Grande 12 fm. level is improving as we drive to the south, and the rise also shows more ore. As we are now opening out the works the output from this part of the mine will increase. We are now cutting the plat at the shaft in this level to prepare for another sink. In the tunnel end we are within 8 ft. of the Dios Padre boundary, and have more spar in the end.

April 27.—Telegram received from Mr. Breach: "Mina Grande ground at present disordered by limestone in the 12 fm. level. Labour abundant."

June 6.—Telegram received from Mr. Breach: Dios Padre—"Lode west of crosscut 3 ft. wide, ore black, coppery, and looking well. One vein, tunnel end, promising. Mina Grande lode poor in the 12 fm. level."

PROVIDENCIA, TIRITO, AND NEW EAST LODE.

Frank W. Breach, March 31: Underground the stopes throughout remain the same as last week, and the improvement in the back of the New East lode continues. In the Providencia Mine the cross cuts in the 32 and 10 fm. levels east are in the same ground, rather better for working, and although almost a pure limestone it is not country ground. The cross-cut east in the upper works in the Providencia is in to the footwall, and we find the lode in that part has an eastern underlie. In this cross cut we found a vein of green ore that perhaps may pay to follow, but like all the lode in this mine it is only balls of ore. We are now driving to the north on it. In the Tirito we are cross cutting on the level of the tunnel to sink for the new east lode further to the south, and although after driving through an apparent horse of ground we cut spar with very good copper ore, it does not yet look very promising.

April 6: In the Providencia Mine the stopes remain as usual. In the crosscuts in the 32 and 10 fm. levels the ground continues the same. From the latter way leading from the tunnel to the Purisima we have commenced a cross-cut in the hope of striking the New East lode 16 fms. above the tunnel level; we are now driving through hard spar. In the cross-cut on the tunnel level in the Tirito Mine to try for the New East lode further to the south, we are now following the one reported last week. In the stopes over this level we have now a vein of very good black ore about 2 ft. wide, which appears inclined to separate itself from the red and green ore, of which the vein is composed. The engine-shaft is still in easy ground. We are now down 30 ft. below the 32. I omitted to mention that after some little trouble with the water we have commenced to sink a winze in the New East lode, and have very good ore and comparatively dry ground. I am now making out the accounts for last month, and I find all classes of ore assay well for copper, varying from 5·6 per cent. to 8·7 per cent. by wet assay.

April 27: Telegram received from Mr. Breach: "New East lode improving."

The directors have received transverse sections of the Mina Grande and Tirito Mines, which can be seen at the offices of the company. The first of these is especially important, as proving distinctly that there are two large branches in the Mina Grande, which will probably join about 20 to 30 fms. under the tunnel level.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, June 14: Setting Report: The new shaft to sink below the surface, which is now 8 fms. deep, by nine men, at 11*l.* 10*s.* per fathom, for the month, and to make the shaft secure with all timber that may be required. In the deep adit we have finished stoping the bottom and cutting down the side of the level, and have set the cross-cut to drive south, towards the new shaft, at 6*l.* 10*s.* per fathom, for the month. No. 2 adit to drive east, by six men, at 3*l.* 5*s.* per fm., for the month; the ground here is not so hard and troublesome for driving as it has been, and looks more favourable for producing lead. No. 1 adit to drive east, at 4*l.* 15*s.* per fathom, for the month; the lode is very large, and during the past week we have broken some saving work for dressing. In the east part of the sett (Crowlewin) the cross cut to drive south, by two men and one boy, at 8*l.* 15*s.* per fathom, for the month. We are making good progress with all other work.

ASSHETON AND WEST ASSHETON.—J. Craze, June 15: Boundary shaft is now down to the 70 fm. level, the casing and dividing all put in, and the men are engaged sinking and cutting the plat, which will be completed this week, when the shaftmen will resume the sinking of the shaft below the 70; and a pare of men will commence driving a 70 cross-cut to intersect the lode, which we hope to effect in about a fortnight hence. The 60 is extended 9 ft. west of cross cut; the lode is 3 ft. wide, composed of killas, quartz, blende, and lead; a very promising lode. The 60, east of cross-cut, is extended about 2 fms.; the lode is fully 3 ft. wide, composed of quartz, blende, and lead, producing some fine stones of the latter, and an early change is anticipated. The men are now engaged driving east in the 40, to communicate with Assheton proper, as the 40 is not far enough advanced to meet the cross-cut from boundary shaft, which has been driven at right angles with the lode; this will be accomplished in a few days.—Assheton Proper: The men are still engaged clearing the 4, west of Browne's; this will be all cleared by Saturday next, when we shall be able to put on two or three stopes. We have now six pares of tributers—two men in back of the 40, east of Browne's, at 2*l.* 10*s.* per ton; two men in back of the 40, west of Mawr, at 6*l.* per ton; two men in back of the 30, east of Browne's, at 7*l.* per ton; two men in back of the 8, west of Mawr, at 7*l.* per ton; two men in bottom of the 8, east of Mawr, at 8*l.* per ton; two men in adit level, on north and south lode, at 7*l.* per ton. We shall sample a parcel of about 30 tons of lead on the 27th inst.

BEDFORD UNITED.—William Phillips, June 15: We are making good progress in clearing the rise on the south lode.—North Lode: We shall complete the engine shaft 12 fms. deep, and commence a cross-cut to the north part of the lode during the coming week. There is no change to notice in the ends or stopes to-day.

BRONFLOYD.—Thomas Kemp, June 15: No. 3 Shaft, North Lode: The part of the lode opened on by the 110 end, west of shaft, since my last report is without change to notice; principally composed of killas, spar, carrying small strings of lead ore, in ground tight for progress. This point is being urged on with all speed, so as to get under the point of winze, which is being sunk from the 98 as quickly as possible. The part of the lode carried in sinking the winze under the 98 to the west of shaft, is worth 10 cwts. of ore per fathom; the ground here is also exceedingly tight, which renders progress very slow. The lode in the stope, to the west from Joshua's winze, over this level, for the width carried, 6 ft., is worth 18 cwts. of ore per fathom. The stope to the east of Joshua's winze, and also over this same level, is worth 12 cwts. of ore per cubic fathom. The lode in the stope over the 73, to the east from shaft, is worth 20 cwts. of ore per cubic fathom. Since last setting day a trib ute pitch has been let to two men, in the bottom of the 40, west of shaft, at 8*l.* per ton.—No. 2 Shaft, Middle Lode: The part of the lode opened on in the 52 end, west of Lloyd's cross-cut, has within the last few days improved, and is worth for the width of level (4 ft.) 8 cwts. of ore per fathom, a kindly lode. In the 40 end, east from shaft, there has not much been done since last setting-day, the level being full of stuff owing to the short supply of water for hauling purposes, consequently there is no change to notice here. We have had in the last week or nine days some heavy showers of rain, which have given us a little better supply of water. Hauling and dressing going on regularly.

CARGOLL.—J. Jennings, June 14: In the 11, east of Bowyer's shaft, the branch of lead during the last few days has diverged a little from the regular course on the main part of the lode, consequently it had fallen off in value, but am pleased to state that the branch is again turning towards the lead-bearing or main part of the lode, and no doubt that very soon we shall see a good improvement here again; the branch is now producing saving work for lead. The stope in the bottom of the adit, east of Bowyer's shaft, continues to yield ½ ton of lead per fathom; all other bargains on this lode are without change.—Main Lode Adit West: In the last few days this lode has considerably improved in its appearance, producing branches of solid lead in the prian, and the matrix about this lode is in heating everything that could be desired for a course of lead.

CWM DWYFOR (Copper and Silver-Lead).—J. Jewell, June 13 and 15: Stewart's Shaft: The lode (No. 4 south) in sinking this shaft below the 10 fm. level is yielding saving work for lead ore.—Level on No. 4 Lode, South: The lode in this level, east of Stewart's shaft, is 2 ft. wide, and though split up and unproductive, is presenting a better appearance. In the sole of this level we have met with a smooth head corresponding with the slide observable at the eastern end of the open cut, which we expect to intersect by the end of this month. I believe that as soon as an intersection takes place we shall open up a fine section of ore ground; we have still a length of over 35 fms. to drive this level eastward before it reaches the great cross course.—Level on No. 3 Lode, south: In this level, driving east of the south cross-cut, the lode is 2 ft. wide, yielding fully 10 cwts. of silver-lead ore per fathom, and stones of good copper ore; judging from the present appearance of this lode, I believe we are on the eve of making a good discovery of mineral at this point. I hope to sample another parcel of lead ore early next week.

CWM ELAN (New).—W. Goldsworthy, June 10: We have had some heavy showers of rain during the week, but not sufficient to increase our surface water supply. Good progress is being made in making the new water course. I have one party of men starting from a point near the mine, and another party from the lake.

DE BROKE.—J. Phillips, June 14: The men in Wilson's shaft have a contract to further deepen it 3 ft., and to fix sollar for commencing a cross-cut to the ore-bearing part of the lode. The 25, driving east of cross cut, is of the same value as last week—10*l.* per fathom. The stope east of the rise will produce quite 2 tons of lead ore per fathom. The stope in the back of the 25, abutting on the counter lode, will produce 1 ton of lead ore per fathom. Samples have been sent out for 12 tons of ore, for sale next Monday, June 19.

DENBIGHSHIRE CONSOLIDATED.—John Pryor, June 15: West End: The 112 looks better for ore than I have seen it for some weeks, and we are producing therefrom some good saving stuff for the washing floors. The appearance of the end also indicates immediate improvement. The rise in the back of this level looks well; we have a run of ore for about 12 ft. long, and from 6 in. to 8 in. wide along the back, and as we open out the ground we find the lead to improve. I cannot make out why we have not met this course of ore before, but I expect a day or two will throw some light upon it, and perhaps prove that we have some good ground to stope away at the back of us.—Eastern End: Since my last some splendid ore has been obtained from this point; a sample has been sent for assay, which I think is good for silver. I feel confident that this end will do us great good if any other lodes are coming in from the south of us. We are busy dressing ore.

DEVON GREAT CONSOLS.—June 16: Wheal Josiah, Richard's Engine-Shaft: This shaft is in regular course of sinking below the 260, and fair progress continues to be made. In the 60 west, and west of Castle's cross-cut, on the south part of the lode, the lode is still worth 3 tons of ore, or 12*l.* per fathom. In the 60 east, and east of Castle's cross-cut, on the south part of the lode, the lode is 4 ft. wide, and worth 3 tons of ore, or 12*l.* per fathom.—Wheal Emma, New Shaft, New South Lode: In the 140 east the lode is still disturbed; it is, however, exceedingly promising, and is worth 4 tons of ore, or 12*l.* per fathom. In the 145 east the lode continues a good course of ore, worth 10 tons, or 40*l.* per fathom. In the 130 east, as advised last week, a cross cut has been commenced south from the present end for intersection of the south part of the lode. The driving of the 115 east has been resumed, in which the lode is 2 ft. wide, and worth 2 tons of ore, or 6*l.* per fm., and is promising. In Maunder's winze, below the 115 east, the lode is still a good course of ore, and worth fully 10 tons, or 40*l.* per fathom. We have for sale on the 22nd instant 731 tons of ore.

DUBBY SYKE.—W. Tallantire, June 9: The vein we are working in the old level is better for lead this week, and the opening out of the old level is going on well.—Shooting-Box Level: The rise is being put forward as fast as possible; the portion of the vein we have in the rise looks well, and the ground is now firm and quite dry.

EAST BASSET.—R. Pryor, E. Adams, June 14: The lode in the stopes in the bottom of the 40, driving east of cross cut, is just as when last reported on, being worth 10*l.* per fathom for copper ore. Other places remain without change to notice. Friday next being our setting-day a full report shall follow.

EAST CARADON.—J. Kellow, T. Trelease, June 14: Williams's shaftmen have been engaged cutting ground for bearers and cistern, and fixing new plunger lift at the 130. We have set them a bargain to sink this shaft 5 fms. for 30*l.*, and if completed within four months and one week, to be paid a premium of 20*l.* The winze below the 130 has been sunk about 1 fm. 2 ft., but owing to the increase of water is temporarily suspended. The men have been rising in the back for rods, &c., and we are engaged in forking water at Seccombe's shaft preparatory to removing pitwork, &c., from the same, part of which will be required in Williams's shaft and the winze. To drive east on counter 1 fm., by four men, at 18*l.* per fm.; it measures 2 ft. 6 in. The lode is 2 ft. wide, composed of peach, mundic, and stones of ore. To drive east on south part of Child's 1 fm. stent, by two men, at 6*l.*; it was driven 4 ft. Lode 1 fm. wide, chiefly composed of peach and mundic—ground beside favourable for granite. To stope the counter lode on the 90 3 fms., by two men, at 2*l.* 14*s.*; it measures 2 fms. 1 ft. 7 in, and yielding ½ ton of ore per fathom. To stope Child's lode in the back 8 fms. stent, by four men, at 2*l.* per fathom; it measures 4 fms. 5 ft. 9 in. and yielding 2 tons per fathom. To drive east on branch of 70 1 fm., by two men, at 3*l.* 10*s.* per fathom; it was driven 1 fm. 1 ft. 9 in., and yielding 1 ton of ore per fathom.—Midway Level: To stope the branch below this level 4 fms., by four men, at 4*l.* per fathom; it measures 3 fms. 5 ft. 4 in., and yielding 1 ton of good quality ore per fathom. To drive No. 2 stope 5 fms. stent, by four men, at 3*l.*; it measures 4 fms. 5 ft. 2 in., and yielding ½ ton per fathom. We have four men stoping the back, where it will yield 1 ton per fathom. Eleven tribute pitches were set, each by two men, for one or two months, at tributes varying in value from 8*s.* to 13*s.* 4*d.* in 1*l.*

EAST DARREN.—June 13: In the 130 fm. level, west of Skinner's shaft, the lode is 3 ft wide; a little easier for progress, but still unproductive. In the winze sinking under the 116, on south part of lode, the ground is favourable for progress, being chiefly composed of a light clay-slate, carbonate of lime, and small branches of lead ore, yielding saving work for dressing. In the stope over the 116 the lode is 4 ft. wide, yielding 8 cwts. of lead ore per fathom. In the drift east of winze, under the 92, the lode is 5 ft. wide; a little improved, now yielding saving work for dressing. In the cross-cut, south of the 92, the ground is favourable for driving, containing small strings of lead ore, but not sufficient to value; this point we hope to communicate to the pitch over the 104 in a few days. In the stope over drift, over the 92, the lode is 2½ ft. wide, yielding 12 cwts. of lead ore per fathom. In the stopes over the 80 (two in number) the lode is large, yielding on an average 10 cwts. of lead ore per fathom. The tribute pitches throughout the mine are without change to notice, yielding their usual quantities of lead ore. Our machinery is in fair working order.

EAST VAN.—W. Williams, June 15: At the end of the 25 west we have crossed north 26 ft. We are still having spots of lead, but not sufficient to value. The cross-cut south towards Tempest shaft is driven 24 ft. At this point also we are having facing of lead, but of no material value. Tempest shaft is in good course of sinking, and if now 3½ ft. deep.

EAST WHEAL LOVELL.—R. Quentrall, June 14: Fatwork: During the last few days the lode in the new shaft, below the 100, has rather improved. It is producing some very rich stones of tin towards the end, and looking promising for further improvement.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., June 10: The lode in the 127 east is improving in character, yielding very strong mundic with fine stones of ore to the value of 6*l.* per fathom. The lode in the stope in the back of the 117 is also improving, and worth 12*l.* per fathom. The lode in the 105 east is 3½ ft. wide, yielding good stones of ore. The lode in the rise in the back of the 105 is worth 8*l.* per fathom. Viant's stope in the back of the same level, east of winze, is worth 6*l.* per fathom. The lode in the stope in the back of the 95 east is worth 10*l.* per fathom. The lode in the drivage east of stope is worth 8*l.* per fathom. The lode in the 82 east is 5 ft. wide, of a very kindly appearance, with good stones of ore. The lode in the stopes in the bottom of the 82 is worth 7*l.* per fathom. The stope in the back is worth 8*l.* per fathom. All other points are without change.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, June 13: The 78 east, on south lode, is improved, now worth 15*l.* per fathom, and likely to further improve; ground still favourable; west on south branch worth full 8*l.* per fathom. In the middle level east the ground is easy; a fine looking lode worth full 25*l.* per fathom. The lode in the winze in the bottom of this level is not looking quite so well, being disordered and split by a horse; now worth 15*l.* per fm. We expect this will soon improve again. We have holed the cross cut from this level west to the winze on Harvey's north lode, making ventilation and opening tribute ground. We shall now drive east from the bottom of this winze to get over a tribute pitch worked in the back of the 78, and then sink and communicate to it, which will further open out tribute ground. A rise in the back of the 65 on this lode is worth 6*l.* per fathom. We are expecting to hole this rise daily. No other change of importance to notice. The work about the new shaft is all progressing favourably. The stopes and pitches throughout the mine continue to look well, and about the same value as last reported. We sampled yesterday (computed) 260 tons of ore, which will be sold on the 22nd inst.

GLENROY.—R. Rowe, June 13: The men are again taking down the lode in the winze to-day below the 25, which is quite equal to anything we have seen before. Former valuation 80*l.* per fathom.

GLYN.—James Roach, June 12: The engine-shaft continues hard for sinking, but we shall soon be deep enough to cross cut to the lode at the next level. The 15 east, although fluctuating in produce, is opening out valuable ground for stoping. Rise above, 2 fms. behind the forebreast, is yielding fully 20*l.* worth of lead per fathom. Winze sinking under the 15 west has to day produced some good specimens of lead; and as the ore in the eastern level dips west, we may expect a valuable discovery of lead here directly. All other work going on as usual. We have commenced driving a cross-cut from the 15 to south or hanging wall of the lode.

GOGINAN AND LEVEL NEWYDD.—June 10: Setting List: A cross cut to drive south from Bryn Pica shaft, in the 120; this cross cut passed through a lode 4 ft. wide, which contained small strings of lead ore and spots of copper. The 120 to drive west of cross-cut from Bryn Pica shaft; the lode is 4 ft. wide, unproductive, being in the poor piece of ground seen in the level above. Good progress is being made in driving here. The 120 to drive east of western shaft; the lode is the present end is large, and the part carried contains a good mixture of lead ore, producing about 12 cwts. per fathom, and an improvement is expected shortly. The same level to drive west of ditto; the lode is 5 ft. wide, worth 1 ton of lead ore per fathom. A winze to sink below the 110, 80 fms. west of Bryn Pica shaft; the lode here is 4 ft. wide, producing 10 cwts. of lead ore per fathom. A winze to sink below the 110, 35 fms. west of Bryn Pica shaft; the lode is worth 15 cwts. of ore per fathom. We hope to get these winzes down to the 120 by our next setting day. A pitch over the 100, 20 fms. west of Taylor's shaft, is producing 10 cwts. of ore per fathom. A pitch below the 100, 10 fms. west of western shaft; the lode is 8 ft. wide, worth 13 cwts. of ore per fathom. A pitch below the 100, 40 fms. west of Bryn Pica shaft; the lode is 6 ft. wide, yielding 14 cwts. of ore per fathom. A pitch over the 90, 10 fms. east of western shaft, is suspended, the lode having become poor. A pitch over the 110, 12 fms. west of western shaft; the lode is large, and will yield from 15 to 18 cwts. of ore per fathom. Surface work and all things throughout the mines are being vigorously carried on.

GORSEDD AND MERLLYN CONSOLS.—Wm. Edwards, June 15: We have a full force of men sinking the pit; and, although progress is slow at present, we think a change in the rock will soon take place. We have also six men driving in the level, with the object of communicating with the bottom of the pit, so that I see nothing to hinder us in our future operations.

GREAT DYLIFFE.—Edward Rogers, June 14: Dyliffe Lode: The underlie engine shaft, below the 120, is progressing satisfactorily. We are breaking a small part of the lode as we go down, which is producing good stones of lead. The porous part is standing on the north side. In the 120 end, driving east of this shaft, the lode is worth 14*l.* per fathom. In the 95, driving west of the winze, the lode is worth 15*l.* per fm. There is no alteration in any of the other points of operation. A setting report shall be sent you next week. The dressing has been greatly retarded by a scarcity of water. We are sampling 80 tons of lead ore to-day, for sale on the 21st inst.

GREAT LAXEY.—W. H. Rowe: Driving northwards from the Welch shaft, at the 235, the level has for some distance been driven alongside the lode. Although not cross-cutting exactly, the forehead is now directed towards and to prove the lode. This is desirable the more we approach the line of the sump sinking below the 220; the lode in this sump is moderately productive for blende, but not much lead, as might be expected from being at almost what may be termed the heel or southern limit of the ore ground above. The 220 end is just now very changeable, and part of the lode left on the hanging side. A winze has recently been sunk from the 210 down to this depth, about 7 fms. ahead. We are anxious to communicate these two points as quickly as possible, for the double purpose of ventilation and additional stoping ground. In the 200 end the lode continues good, worth about 90*l.* per fathom. A stope immediately above this is worth 80*l.* per fm. The various stopes throughout the old mine maintain their value, and We are now giving close attention to a great extent of unwrought ground, which was left many years ago, owing to the low price of spelter.—Dumbell's: There is an important improvement in the 200, driving north. A small slide was met with, and on the other side the lode is found to be worth at least 50*l.* per fathom. The 200 end south also continues good. The stopes in this part of the mine are very much of the average value, and yielding a very fair amount of ore. There is a very good lode in the 140, driving south, worth 120*l.* per fathom.

GREAT RETALLACK.—John Harris, June 10: In cross cutting the lode at the 40 the end is composed principally of killas, as if we are driving through a horse I am fully satisfied that we have not reached the hanging or south wall of the lode All the other bargains in the mine are pretty much the same as for some time past.

GREAT WEST VAN.—W. Bramwell, June 14: Having just come up from underground, I am glad to inform you that the cross-cuts are pushed on with vigour, the south cross cut has been extended about 8 fms. 3 ft. towards the main lode; I expect to cut the north wall of the lode in about 5 fms. more cross-cutting. The north cross-cut has been extended about 4 fms. towards the new lode; this cross cut has gone through a very promising branch of the lode for about 3 ft. wide, containing quartz and spots of lead ore; I expect to cut new lode in another 10 ft. The 46 west is without any change of importance since my last. The 34 west is improving, every foot of the lode taken down on the south part is full of cavities well filled with lead and carbonate of lime, present value 10 cwts. per fm.; looking at the short distance of this end from being parallel with the south cross-cut, I feel confident of cutting a productive lode at the 46 south cross cut of Eliza shaft. All other points as usual.

GREEN HURTH.—W. Vipond, June 8: We have not cut the intersection yet we expect in driving south on No. 1 vein. We expect to do so daily. The various stopes and workings in the mine are about as last reported, except the stope above adit, which is not so good. We have made good progress at surface lately. The new road down to the new bingstead is finished, and the reservoir is also well forward. I expect all the dressing machinery will be put to work in a few days. There is a very large heap of good bouse to commence working at.

GROGWINION.—John Ki to, June 12: Looking at the mine altogether, there has been very little change since the date of my last report. Of course, some parts are looking a little better, and others a little worse, but the average is much the same as for some time past, and everything is progressing favourably, and the mine throughout is looking well. The intermediate level has been poor during the month, but the 68 has been very good, and quite makes up the deficiency. We have holed two winzes, one from the 12 to the 24, on No. 4 lode, and one from the 56 to the 68, on No. 3 lode; both of these communications have tended greatly to improve ventilation in the levels referred to, and have laid open and available a great deal of ore ground for stopes. Since my last we have sold to the Bury Port Smelting Company 100 tons of lead ore, at 14*l.* 17*s.* 6*d.* per ton, and shall sample another 100 tons at the usual time.

HARWOOD.—William Tallantire, June 9: Herdship Level: The men are making good progress in driving the main level, and it is rather easier to drive. In No. 1 cross vein driving north the ground is producing a little more ore; the south end is about the same as last reported. We are putting in a water-blast for ventilating the workings north and south in No. 1 cross vein, and the ore-dressing floors are nearly ready for use.

HINGSTON DOWN CONSOLS.—J. Richards, June 15: Bailey's Shaft: The cutting of top and trip plats, and bringing down the skip-road from the 150 to the 160, are progressing favourably. In the 160 west the part of the lode carried (3 ft. wide), consists of capel, mundic, quartz, and good stones of ore. In the 150 west the lode is still in a disordered state by small cross branches. In Rowe's winze, sinking below the 150 west, the lode is from 2 to 3 ft. wide, composed of mundic, quartz, capel, and saving work for copper ore. The lode in the stope in the bottom of the 150 west, and west of Rowe's winze, is still worth 5 tons of ore, or 20*l.* per fathom. The lode in Nicholl's winze, sinking below the 150 west, is still 3½ ft. wide, and worth 10 tons of ore, or 50*l.* for length carried—10 ft. In the stope in the bottom of the 150 west, east of Nicholl's winze, the lode is worth 6 tons of ore, or 20*l.* per fathom. The lode in the bottom of the 150 west, and west of Nicholl's winze, is still a good course of ore, worth 8 tons, or 44*l.* per fathom. There is no alteration in any other part of the mine.

LADYWELL.—A. Waters, June 15: The tributers working regularly, and getting fair wages. We are to-day into the main lode, south of New Britain lode; a strong flood of water is coming from the end, and the lode looks promising for lead ore. We shall get into the vein, and see more of it in a day or two, when an opinion as to its general character can be formed.

LLECHWEDD MAWR.—J. James, June 15: We have completed the open-cut to the lode, and shall this week commence to drive on the course of it. We have found some very fine stones of lead loose on the back of the lode, which is now looking very promising—in fact, as fine a lode as could be seen at surface anywhere. We shall gain a back of about 10 fms. in the adit after about 15 fms. drivage, and this will be a very good proof of the lode.

LOVELL (THE).—J. Prisk, E. Kempthorn, June 15: We are making good progress in driving cross-cut south at the 40, which is now a point of great interest. Should a paying lode be met with here it will greatly enhance the value of the mine. The lode in the 30 end east, on south lode, is not quite so large as it has been; it is now 4 ft. wide, worth 12*l.* per fathom. The last 13 fathoms driven in this level has been through a lode 9 ft. wide, worth on the average 30*l.* per fathom. The lode in the rise in the back of this level is 8 ft. wide, worth 25*l.* per fathom. The lode in the 20, east of cross-cut, is 3 ft. wide, and improving in quality. The stopes throughout the mine are working very well, and the engine at the stamps is set to work to day, and just in time, as the dry season is now set in, which makes the water for the wheel very little indeed

MARKE VALLEY.—William George, James Stenlake, Francis Reuals, June 15: The lode in the 136 west, on Marke's lode, continues to yield about ½ ton of ore per fathom, but the ground being hard the progress is slow. The 112 east, on the lode, is without any change to notice. The 30 end west, on Rosedown lode, has improved since our last report, now worth full 2 tons of ore per fathom. The lode in the 20 end west is also looking a little better, yielding good stones of ore. The lode in the 10 west has a very promising appearance, now worth 1½ ton of ore per fathom. The stopes and pitches throughout the mine are without any change to notice.

MEDLYN MOOR.—Joseph Prisk, Chas. Rowe, June 15: At our setting, which took place on Saturday, the 10th inst., the bargains set were as follow:—The 17 east, on No. 2 north lode, by four men, at 4*l.* per fathom; this end has been driven a considerable distance through moderate-paying ground, and is now worth 8*l.* per fathom. The 18 to drive west, on No. 1 south lode, by four men, at 3*l.* per fathom; lode at present small, but we are looking out for an early improvement as we advance westward, and under the rich course of tin driven through in the shallow, or 8 fm., level. The cross-cut to drive south of No. 2 south lode, by two men, at 2*l.* 15*s.* per fathom. A stope in the back of the 17, on No. 2 north lode, by four men, at 45*s.* per fathom; lode worth 5*l.* per fathom. A stope in the back of the 17, west of shaft, on No. 1 south lode, by four men, at 35*s.* per fathom; lode worth 6*l.* per fathom. No. 2 stope, in the back of this level, by two men; lode worth 7*l.* per fathom; this is being worked at 35*s.* per fathom. All the landing and filling in the mine, by two men, at 5*l.* 15*s.* per month. The engine shaft, which is let to nine men, at per contract, will be completed to the 27 in three weeks from this date, after which we shall be in a position to open on the several lodes at this level. We have commenced to turn for the next parcel of tin, and everything on the mine goes on satisfactorily.

MONYDD GORDDU.—R. Rowse, June 14: We cannot sink the engine-shaft with that dispatch desirable, because the water is too little to keep the wheel going regular. The 12 end east, on the main lode, is progressing in a strong, masterly part thereof, yielding a little copper and lead ores; water forces strongly from the forebreast, and we are pushing on with a view of better results. We have started a rise from the back of the stope at the 12, on the south lode, to communicate with the drift about 3 fms. above, when done we shall pass all the stuff from the drift and stopes about that point 20 fms. nearer the shaft than now, whereby one man will do more than three, and the winze through which the stuff now passes will be always clear for perfect ventilation. The lode in the drift, rise, and stope looks well, and promising a continuance, worth 17*l.* per fathom respectively. The stope over the adit, on the main lode, is worth fully 15*l.* per fathom. I have put four men from here to rise at the 12 above named until the large quantities of lead stuff accumulated here has been removed. I regret to say that we are very short of water for dressing; but, on the whole, I have never seen the mine looking better, and we only want the power to crush and dress to be quickly in the market with another 20 tons of lead and 10 tons of blende ores.

NEW CHIVERTON.—James Trewartha, June 15: The fixing of the lift at the 50, and all work in connection therewith, is completed. The summpmen are now engaged putting in a penthouse, hanging tackle, and other little jobs, preparatory to resuming the shaft. The shaft will be resumed on Monday next, the 19th inst., and the sinking will be carried on with all possible dispatch, fully expecting to reach the 60 by the time specified. There is nothing new to report on in the tut-work bargains, as the men are driving by the side of the lode. The tribute department is looking well.

NEW CONSOLS.—R. Pryor and Son, T. Jenkin, H. Vial, June 14: Setting Report: On Saturday last the following bargains were set: To stope the back of the 86, east of Phillips's engine-shaft, by six men, at 7*s.* per ton of stuff; lode 6 ft. wide, and worth 2*l.* per fathom. To stope the bottom of the 50, east of Phillips's, by four men, at 8*s.* per ton of stuff; lode 3 ft. wide, and worth 2½ per fathom. To stope the back of the 50, west of Phillips's, by four men, at 5*s.* 6*d.* per ton of stuff; lode 3 ft. wide, and worth 2*l.* per fathom. To stope the back of the 40, west of Phillips's, by four men, at 4*s.* 6*d.* per ton; lode 6 ft. wide, and worth 24*l.* per fathom. To stope the back of the 30, west of Phillips's, by two men, at 5*s.* 6*d.* per ton; lode 1½ ft. wide, and worth 18*l.* per fathom. To stope the bottom of the 40, west of Thomas's shaft, by four men, at 5*s.* per ton; lode 6 ft. wide, and worth 19*l.* per fathom. To drive the 40, east of Thomas's, by four men, at 8*l.* per fm.; lode 6 ft. wide, and worth 10*l.* per fathom. To stope the bottom of the 20, west of Thomas's, by three men, at 4*s.* 6*d.* per ton of stuff; lode 3 ft., and worth 2*l.* per fathom. To stope the back of the 20, east of Thomas's, by four men, at 5*s.* 6*d.* per ton; lode 3 ft. wide, and worth 22*l.* per fathom. To stope the bottom of the 10, west of Thomas's, by four men, at 4*s.* 6*d.* per ton of stuff; lode 4 ft. wide, and worth 24*l.* per fathom. To stope the back of the 20, east of Broadgate engine-shaft, by six men, at 4*s.* per ton of stuff; lode 6 ft. wide, and worth 30*l.* per fathom.—Western Part: To stope the bottom of the 30, west of Plantation shaft, by four men, at 5*s.* per ton of stuff; lode 6 ft. wide, and worth 20*l.* per fathom. To stope the bottom of the 30, west of Plantation shaft, by six men, at 7*s.* per ton of stuff; lode 5 ft. wide, and worth 18*l.* per fathom. No. 2 Oxland's calciner was set to work at 8 o'clock yesterday evening, and is now burning its full quantity of stuff and working splendidly. The engineers are getting on well with Nos. 8 and 9 Brunton's calciners, also with putting in the engine at the arsenic refining works. All other surface work is being pushed on as fast as possible. At the western part of the mine the bottom lift is being hung in, and we hope to be in fork here to the 50 by the end of this week. The pay and setting pas ed off well.

NEW HENDRA.—Richard King, June 12: The lode in the deep adit still keeps its course east, which we find by dialling is our proper course to reach the cannier lodes; within this last day or two we have met with a slide in the end; since then the lode has greatly improved, and from which we are saving some rich stones of yellow copper ore.

NEW HENDRA.—R. King, June 15: Since we commenced we have driven this adit level from the air-shaft 140 fms., and have to-day cut another cross branch in the end, which we find has improved the lode, and we have broken some good stones of copper ore from it. Should this improvement continue, we shall soon increase our pile of ore now at surface and in the mine.

NEW NORTH POOL.—W. C. Vivian, June 14: I have just come up from inspecting. The rock in the 25 end is getting loose, and more favourable for driving through as we approach the cross-course, the price at which the end to cut the same was let being 8*l.* per fathom. There is a large quantity of blende, with patches of yellow copper ore and spots of lead in the rock, which I think are good indications for the lode we are approaching; we are driving in a north east direction, so we are approaching the cross course diagonally, and making progress towards the lode at the same time. Our reason for continuing in this direction is that we find the seams of rock carrying the blende, copper, &c., having the bearing named, I am encouraged by the appearances presented to-day in the 25, and feel confident we are on the right tract for a valuable discovery.

NEW ROSEWARNE.—E. Hosking, June 13: There is quite a change in the character of the lode in the 67, west of Pool's shaft; it is now 2½ ft. wide, yielding strong yellow copper ore, worth 10*l.* per fathom. The end is letting out more water than it has done, and we expect it will further improve. We will report again on Thursday.

NEW SOUTH MERLLYN.—R. Rowlands, June 15: We have got on very satisfactorily this week, and have six men in the north level and bottom of the sump, and four in the 80 yard level, driving south, and by Saturday I expect to be able to engage another two. In the 80 yard level we are busy repairing, and we shall commence driving at the beginning of the week. In the north level sump the vein is 2½ ft. wide, composed of nice spar mixed with lead. The ground looks very promising, and I expect when we have sunk a few yards further we shall be able to give you a favourable report.

NORTH LAXEY.—R. Rowe, June 14: For want of rain the water is now in the bottom or 136 fm level. The lode in the 84 end, driving north, continues to be of an improving character; it is about 1 ft. wide, and now contains some good-looking spar and lead. There is also a good deal of water flowing from the lode. The stopes continue about the same:—121 stope worth 15 cwts., 110 stope worth 12 cwts., 110 rise worth 10 cwts., 70 stope worth 15 cwts., 60 stope worth 10 cwts., 50 stope worth 12 cwts. lead per fathom.—Setting Report: 121 stope by five men and five labourers, at 5*l.* per fathom; 110 stope by two men and two labourers, at 5*l.* 10*s.* per fathom; 110 rise by two men and two labourers, at 5*l.* 10*s.* per fathom; 84 end by two men and two labourers, at 7*l.* 10*s.* per fathom; 70 stope by two men and two labourers, at 4*l.* 10*s.* per fathom; 60 stope by one man and one labourer, at 4*l.* 10*s.* per fathom; 50 stope by four men and four labourers, at 5*l.* 10*s.* per fathom. We are getting on well with the erection of the steam-engine, and hope to have it ready for work by the end of July.

NORTH TRESKERBY.—R. Pryor, June 14: The lode in the shallow adit level, driving east of Doctor's engine-shaft, is worth for copper ore 7*l.* per fathom. The lode in the stopes in the bottom of the 50, east of Highburrow, is worth for tin 20*l.* per fathom. The lode in the stopes in the bottom of this level is worth for tin 17*l.* per fathom. Other places are without change.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, June 14: There is no change to report in any of the tutwork bargains since last week. Messrs. Weston and Sons' parcel of ore will all be delivered at Wadebridge to-morrow. We will send you full report next week.

PARYS MOUNTAIN.—T. Mitchell: The 90 cross-cut continues to look much the same as for some days past. The ground is getting more mineralised, and the branches of sulphur mixed with copper recently passed through may be feeders to a strong lode. Water is still bursting from the forebreast, and is highly charged with copper. The 90, east of engine shaft, driving towards the run of ore ground seen in the 80 is producing strong patches of copper ore, but the ground is still hard for cutting. The 45 east continues to open up good ground for stoping. This ground is extending further east than we expected, and we shall soon open it convenient for taking away ore. We have cut the lode in the 30 cross-cut, and as far as we can see it is orey. We are hoping to lay open some good ore ground here shortly. The lode looks very promising at this point. Some of our stopes have fallen off in value lately, but we hope the new ground which is being opened out will soon enable us to increase our returns. We have commenced to clear up our large pit, and it promises to turn out well.

PATELEY BRIDGE.—C. Williams, June 15: The Lamb vein in the south cross-cut in the 10 fm. level is 3 ft. wide, and worth 13*l.* per fathom for lead ore. Fielding's vein going north west in the east cross-cut in the 20 fathom level is about 3 ft. wide, and worth 18*l.* per fathom for lead ore. The vein in the roof over the drivage is worth 17*l.* per fathom for lead ore. The same vein in the south east end is worth 12*l.* per fathom for lead ore. The engine shaft is in good course of sinking under the 20, and fair progress is being made. Pringap vein is very wide and porous, and producing a good mixture of lead ore.—Gilflicil Level: I am pleased to be able to advise you of the marked and continuous improvement in the Sun vein in the east drivage from bottom of shaft under this level. The vein to-day is 4 ft. 6 in. in width, and worth from 15*l.* to 16*l.* per fathom for lead ore. The vein in the stope over the level is 6 ft. in width, and worth 18*l.* per fathom for lead ore. We shall commence smelting next week.

PEDN-AN DREA UNITED.—Wm. Tregay, W. Prideaux, J. Pope, June 10: Sump: The ground here is still hard, and the lode has slightly fallen off in value, producing about 8*l.* worth of tin per fathom. The junction is still ahead, and that gives a fair prospect of improvement within a fathom or two further driving. In the 140 west end the lode (Martin's) is worth 10*l.* per fathom.—Cobbler's Shaft: The lode here is worth 9*l.* per fathom. In the 130 west end the lode (Martin's) is worth 12*l.* per fathom—Cardozo's: In the 100 west end the lode (north) is worth 9*l.* per fathom. In the 100 west rise the lode (north) is worth 6*l.* per fm. In the 99 west end the lode (north) is worth 20*l.* per fathom. In the 80 west end the lode (north) is worth 18*l.* per fathom. In the 60 west end the lode (north) is worth 9*l.* per fathom. In the 55 west end the lode (north) is worth 9*l.* per fathom. In the 47 west end the lode (north) is worth 7*l.* per fathom. We sold on the 2nd inst., to Messrs. Sweetland and Co., 2 tons 5 cwts. of copper ore, at 6*l.* 16*s.* per ton—15*l.* 15*l.* 6*d.* We sold on the 8th inst., to Messrs. Williams, Harvey, and Co., 13 tons 11 cwts 2 qrs. 10 cwts. of black tin for 61*l.* 6*s.* 9*d.* We also sold on the 8th inst., to the Redruth Smelting Company, 11 ton 13 cwts 2 qrs. 16 lbs. tin for 52*l.* 1*s.* 11*d.* There are no other changes to report.

PENNANT BARYTES.—June 15: Our operations in connection with the pit-work in the engine-shaft are now complete; and I am pleased to say the machinery works well, and keeps the water under with perfect ease. Finding the vein had slipped into the heading side of the shaft a few feet above the 80, I placed six men to cut into it; and I think I never saw a finer lode of carbonate of barytes mixed with lead than is here presented. I am glad to inform you that we have struck the lode on the eastern side of the shaft, but are not yet through to the other wall; so far as we can see at present, the value of the same will exceed our anticipations, for apparently its whole composition is carbonate and lead in equal portions. As I stated some time since that the cutting of this lode is a very important point for

TREBEIGH CONSOLS.—J. Gifford, June 14: The walls of the engine-house are up, and the masons busy about the stack and boiler house. We are getting on well with taking out the engine, and hope to complete it some time next week.

TRELEIGH WOOD.—E. Hosking, Wm. Goldsworthy, June 15: The lode in the 50 is a little disordered by a small crossing; we expect to get through it in a day or two, when we hope to report an improvement. Nothing has been done during the week in the 44, west of the cross cut, east of the engine-shaft; the men have been engaged putting in timber and securing the 44 west, preparatory to sinking a winze below the level. The lode in the 44, east of the cross-course, is a little improved, and is worth 14l. per fathom. The tributers are working their respective pitches, and most of them getting fair wages.

VAN CONSOLS.—James Roach, June 12: The squaring down, casing, and dividing of Murray's shaft is progressing favourably, and shall be completed to the bottom of the mine, 85 fms. from surface, with the utmost dispatch. The 40, west of above named shaft, driving on north part of lode, is yielding for the width of the level 20l. worth of lead per fathom. The south and greater portion of the lode remains to be cut down. Stope in roof of the 25 still maintains its character for the production of lead. We are busily engaged raising stone, &c, for building engine-bed, bob pit, &c., at Murray's shaft. Machinery all in good order, and working well.

VAUGHAN.—June 13: In the engine-shaft sinking under the 32 good progress is being made, and the ground composed of a light clay-slate, containing spots of copper, but unproductive for lead. The pumping-wheel and pitwork are in good working order.

TRON.—S. Harper, June 12: In opening the Intermediate level above the 60 yard level, west of No. 2 winze, we met with nice lumps of lead ore, the lode being about 2½ ft. wide. In the 40 yard level, north of footway shaft, the lode is much disordered by cross joints, clay, sand, big stones, &c., which I look on as not favourable for producing lead ores, therefore I removed the two men to join the other two men at the Intermediate in the back of the 60 yard level, and by so doing we shall prove a few yards so much the sooner. The lode in the winze in the bottom of the 40 yard level, west of footway shaft, still continues to show the same favourable indications for producing lead ore; ground favourable for progress. The water in the mine is falling back, being now several yards below the 60 yard level, and the weather favourable for draining the mine very soon with the assistance of the engine.

WEST COMBMARTIN.—J. Treweeke, June 15: We have for the present suspended our western levels, and have put all our force in the Meadow level, where we have a large flookan lode carrying a good quantity of lead ore. We expect shortly to be at the point of junction of an east and west lode with our Orchard lode here, and may reasonably expect something good. One main object of developing this level a few fathoms further is to decide upon the best site for an engine; depth only is wanted, and then we may without doubt look forward to getting a rich mine.

WEST CRAVEN MOOR.—David Williams, June 10: The lode in the north-west level, from bottom of new west shaft, has improved, and is now worth fully 6 cwts. of lead ore per fathom. The east end has also improved.

WEST GODOLPHIN.—John Pope, June 15: Monthly Report: Caunter Lode: The 60, at Pressure shaft, to nine men; we have fixed the bottom of the plunger lift at the 60, and shall near the column to the 40, and connect the pole this week; we shall then put in penthouse at the 60 preparatory to sinking, and to-morrow week we shall near the column to the 30, and I hope on the following Monday to commence sinking Pressure shaft for the 70.—Wilson's Lode: The 60, driving west, by six men; lode 2 ft. wide, worth 8l. per fm.; distance driven 40 fms. 1 ft.—producing tin. The 60, driving east, by four men; lode 3 ft. wide, worth 7l. per fm.; distance driven 40 fms. 4 ft. 6 in.—producing tin.—Caunter Lode: The 60, driving north, by two men; lode 2 ft. wide, worth 4l. per fm.; distance driven 1 fm.—producing tin.—Wilson's Lode: The 50, driving west, by six men; lode 3 ft. wide, worth 8l. per fm.; distance driven 35 fms.—producing tin. The 50, driving east, by four men, lode 3 ft. wide, worth 8l. per fm.; distance driven 44 fms. 4 ft.—producing tin.—Caunter Lode: The 50, driving north, by four men, lode 2 ft. wide, worth 8l. per fm.; distance driven 2 fms.—producing tin.—Wilson's Lode: The 40, sinking winze west, by four men, lode 2 ft. 6 in. wide, worth 6l. per fm.; distance driven 6 fms. 1 ft. 10 in.—producing tin and copper. The 40, stoping east, by six men, lode 4 ft. wide, worth 7l. per fm.—producing tin and copper. The 40, stoping east, by six men, lode 5 ft. wide, worth 8l. per fm.—producing tin and copper. The 30, stoping east, by two men, lode 2 ft. 6 in wide, worth 4l. per fm.—producing tin. The 10, sinking in Boulton's shaft, by six men, lode small; distance driven 24 fms. 2 ft. 3 in.—Surface: Sinking Gladstone's shaft by six men, lode small; distance driven 8 fms. 5 ft. 3 in.—Caunter Lode: The 60, stoping south, by two men, lode 2 ft. 6 in. wide, worth 5l. per fm.—producing tin.—Pink Lode: The 60 pitch, stoping west, by two men, lode 1 ft. 3 in. wide, worth 4l. per fm.—producing tin. We have four men engaged stripping down the sides of the 60 on Wilson's lode, and two men at the 50 stripping down a piece of the caunter standing in the side of the level south of Wilson's lode. I was hoping we should be able to get our stamping engine to work against our next pay-day, but I find we shall not be able to get it to work against that time, but unless anything unexpected turn up we shall be able to do so in the following week. The water is falling off very fast at our stamps. I will let you know the quantity of tin sold in time for the committee meeting.

WEST GREAP WORK.—S. J. Reel, June 13: An interm diate level cross-cut has been commenced to crow the 10 to intersect the Godolphin lode at a point under where we have found this lode productive in the latter level, and a drivage of about 4 fms. only is required to cut it, and judging from the prospects going down in the bottom of the 10 a good paying lode may fairly be reckoned on when met with. In the 10, west of cross cut, the Godolphin lode is 1½ ft. wide, composed of mundic, chlorite, and producing good stamping work; this end is now in the elvan rock, thereby causing less progress in the opening up of the lode. A rise is being put up behind this end, and the lode is worth 4l. per fathom. In the east end the lode is 2 ft. wide, with strong tin disseminated, and worth 8l. per fathom. I am anxious to see the westerly drivages extended, being persuaded that rich tin ground would be discovered near the junction of another lode and a cross course, and now within a distance of some 15 fms. from the present end. The quantities of tin that have been raised should now at this point warrant me in expressing this opinion.

WEST MILWR.—William Francis, June 14: The 70 yard cross-cut, south from West Meadow shaft, is in the best bearing carboniferous limestone, and strings and pattings are being met with continually. There is every reason for saying that that the Milwr vein, when intersected, will prove rich in these measures.

WEST PORTH NIGEL.—M. Whitford, June 7: This mine is situated in the parish of Aberlaron, in the county of Carnarvon, in which an adit level has been driven some 60 or 70 fms. on a lode varying from 2 to 5 ft. wide, composed of quartz, barytes, mundic, impregnated with lead and copper. In this drivage two other lodes have been intersected, highly promising in character and appearance; producing some good stones of copper ores. The stratum in which these lodes are contained is clay slate, and very congenial for the production of mineral. A winze is being sunk below the adit level to prove the lodes some 20 or 30 yards below, and from what has already been seen large deposits of mineral are anticipated. In my opinion, if this promising property is vigorously developed it would become remunerative.

WEST TANKERVILLE.—A. Waters, June 8: Setting Report: The 75, to drive north of boundary shaft, by six men, at 13l. per fathom; the lode still in two divisions, but showing signs of coming together and improving for lead. The productive ground is near at hand here now. The 63, to drive south of shaft, by four men, at 11l. per fathom: worth 1 ton per fathom. No. 1 stope in this level north, by four men, at 7l. per fathom; worth 1½ ton of lead ore per fathom. No. 2 stope, by two men, at 4l. 10s. per fathom; worth 1 ton per fathom. No. 3 stope, by four men, at 4l. 10s. per fathom; worth 1½ ton of lead ore per fathom. No. 4 stope, by four men, at 4l. per fathom; worth 2 tons of lead ore per fathom. The 50, to drive south east to intersect big east lode, by four men, at 10l. per fm.; expect to get daily to cut the lode. No. 1 stope in said level south, by two men, at 4l. 10s. per fathom; worth 1½ ton per fathom. No. 2 stope, by four men, at 4l. per fathom; worth 1 ton per fathom. We have to-day sold 25 tons of lead ore.

WEST TANKERVILLE.—A. Waters, June 15: The 75, south of boundary shaft, is now into the commencement of the ore ground, and the lode is daily improving. The 63 south is into a strong fine looking lode, worth 2 tons lead ore per fathom. No. 1 stope, in said level south, is worth 1 ton per fathom. No. 2 stope, ditto, worth 1 ton per fathom. No. 3 stope, ditto, worth 1½ ton per fathom. No. 4 stope, ditto, is also worth 1½ ton per fathom. The 50 east, towards No. 2 lode, is into the forkwall strings or branches of the lode, and we are expecting daily to cut into the main portion of the vein. No. 1 stope in this level is worth 1½ ton per fathom, and No. 2 stope is also worth 1½ ton per fathom. The 25 tons lead ore sold last week all delivered.

WEST WHEAL TOLGUS.—June 14: Taylor's Shaft: The ground is just the same as it has been, tolerably easy, with plenty of water. The lode in the 135 fm. level west, is 4 feet wide, with a little ore scattered through it, yielding from 2 to 3 tons of ore per fm. In No. 1 winze, under the 125 fm. level lode, 5 ft. wide, yielding 4 tons of ore per fm.; these two bargains have fallen off in value since our last report. In No. 2 winze, in the 125 fm. level, the lode is split with a horse of killas. From the south wall to the north wall is 9 ft. The north part of the lode is 2 ft. wide, yielding 2 tons of ore per fm., and the south part is nearly 3½ ft. wide, yielding 8 tons of very good ore per fm., so together the both parts will yield 10 tons of ore per fm. The horse is from 3 to 3½ ft. wide, soft white killas, and the winze, which is down nearly 6 fms., is quite dry. The lode in the 125 and 115 fm. level is without alteration. The lode in the 105 is all the size of the end spotted with ore but enough to value. The lode in the 95 end west is about 18 in. wide, but yielding 2½ tons of ore per fm. The lode in the 85 west is large and with a little ore, about 1 ton per fm. The lode in the 75 end is small and poor. The lode in the 65 and 55 is also small and unproductive. Richards' shaft men are getting on with the sinking very well. We are proceeding with the dressing for next Tuesday's sampling. We shall sample four parcels, making 260 tons. We shall have one parcel from the winze (No. 2) of 50 tons.

WHEAL AGAR.—William Teague, jun., Edward Moyle, June 10: We have completed the sinking of the engine-shaft to the 195; the lode is very large and highly mineralised, and worth for tin, copper, and mundic 30l. per fathom, a very kindly lode. The men have been engaged cutting a plat, which will take another month to finish. We shall then have to drive east a few fathoms before commencing to sink. In the 185, driving east of the engine-shaft, the lode is producing good stones of tin. In this end we hope soon to meet with the junction of Waddington's lode with the old lode, where we have every reason to expect a decided improvement. We have to-day set a winze to sink in the bottom of the 185, by six men, east of the engine-shaft, where we expect to meet with a good lode like we have in the engine shaft, it being only 5 fms. to the east. When this is communicated with the 195 below it will lay open a valuable piece of tin ground. We have set the 185 cross cut to drive north, by three men, where we expect to intersect the north lode in a few fathoms further driving. In the rise in the back of the 170, on the old lode, the men are making very fair progress. The lode has a very kindly appearance, and is worth for tin and mundic 8l. per fathom. We hope to communicate the rise with the 150 winze in about a month from this time, which will not only give good ventilation but lay open an available piece of tin ground. We hope to get the stamps to work in the coming month.

WHEAL CREBOR.—J. Andrews, June 13: There is no change in the 120 cross cut south. The lode in the 108 east is 2 ft. wide, yielding a little copper ore and mundic, but nothing to value. In the 72 east we have resumed driving on the south part of the lode, which is composed chiefly of quartz, capel, mundic, and white spar. The part of the lode we are carrying in the 48 east is still worth 10l. per fathom. The two stopes in back of the 48 east are worth 30l. and 25l. per fathom respectively.

WHEAL KITTY (St. Agnes).—S. Davey, R. Harris, June 10: We have not yet cut through the capels in the 154, which is hard and flat, and from appearances will take a week or two, but shall be pushed on as fast as possible. We have no change in any of the other bargains, except the 142 east, which have improved, and is now worth for tin 11l. per fathom.

WHEAL UNY.—W. Rich, M. Rogers, W. Bennetts, June 10: The lode in the future of the property, and having reached it under such favourable circumstances, we can depend upon a large production. I have placed men to drive west at the 80, on the course of the vein, and there is every indication of being successful at this point. Our surface operations are now proceeding well, and we shall have a lot of stuff to put through the crushers, lead and carbonate, the latter being very much more valuable than the sulphate, and readily disposed of.—New Carbonate Vein: Since my last the men have drawn to surface a good pile of stuff from this point.

PENNERLEY.—W. T. Harris, J. Delbridge, June 14: The 130 east is producing good stones of ore, with every appearance of an early improvement. In the 120 west the lode is 1 ft. wide—carbonate of lime and lead ore. The rise and stope in back of this level is worth 1½ ton of lead ore per fathom. The level east is unproductive. The lode in the winze sinking below the level is 1½ ft. wide, worth 4 tons of lead per fathom. The rise and stope in back is worth 2 tons of lead per fathom. The lode in the 100 east is worth 10 cwts. of lead per fathom. The lode in the 80 west, on Warm Water lode, is 2 ft. wide, containing good stones of lead ore, apparently entering the same run of ore gone down in bottom of the 70 fm level. The lode in the stopes in bottom of the 70 maintains the value put on them in last report.—Potter's Pit: In the 90 cross-cut we have intersected the south part of the lode, but not yet through it; we shall report fully next week. The lode in the winze sinking below the 75 is 1 ft. wide, wide, yielding good stones of ore, and very promising. In the winze and stope west of cross-cut the lode is 3 ft. wide, worth 4 tons of lead per fathom, and looking well. The lode in the 65 west is 1 ft. wide, worth 1 ton per fathom. No other change. The tributers are raising fair quantities of lead ore, and making wages at their respective prices given in our setting report.

PERSEVERANCE.—Wm. Rich, Wm. Hambly, June 13: There is no lode yet intersected in the 70 cross-cut north. We have cut the cross course in the 82 east, which has drained the 70; we are, therefore, obliged to put down larger pitwork below the 70, which we hope to fix this week. The lode in the 82 west is letting out water freely, and yields stones of tin. We have reached the back of the adit in the shaft at Carn Marth.

PLYNLIMMON.—John Garland, June 14: New Shaft: The water has been drawn out below the 24, and sinking resumed this day; henceforth I hope to be able to report fair weekly progress. In the 24, east of new winze, the lode is heaved north by a cross-head, carrying decomposed killas; this I believe to be the eastern wall of the cross channel of ground met with over this point in the levels above; the lode is at present small, composed of mundic, blende, and lead ores, producing of the latter 1 ton per fathom; this falling off I believe to be only temporary, which was the case in the upper levels. In the stope over the 24, east of new winze, owing to the unsettled nature of the ground the lode fluctuates in value; present produce, ¾ ton of lead ore per fathom. The stope in bottom of the 12, east of cross-course, maintains its value—1½ ton of lead ore per fathom; this stope should increase in yield shortly. We have a fair supply of water, and drawing and dressing are being pushed on as fast as possible, and samples of 20 tons of lead ore will be issued on Tuesday next, the 20th inst. The machinery throughout the mine is all in fair working order.

PORT NIGEL.—J. Manley, June 14: The 56 east has improved in size and value, the lode being from 6 to 7 ft. wide, and is easy for progress, its component parts being fluor spar, carbonate of lime, quartz, copper, and lead ore; worth for the latter 30l. per fathom, and is likely to further improve. We have now driven over 10 fms. in this run of ore, where we are opening up a splendid section of stoping ground, which argues well for the mine in depth. The 68 east has very much improved during the last 3 ft. driven; the lode is about 3 ft. wide, 10 in. of which being a good mixture for lead and blende of a very promising appearance, and quite analogous to the lode seen in the 44 prior to cutting into the lead ground a little in advance of this point, which convinces me this shoot of ore dips west, and comes close to the shaft as depth is attained. There is no particular change in the lode in the 68 west calling for remark, only the ground is more spare for working, and there is every probability the ore ground west of the shift dips west, which accounts for our not cutting into it at this point. On the whole, I consider the prospects of the mine very encouraging, and worthy of a spirited development.

PRINCE OF WALES.—J. Andrews, J. Pryor, June 14: In the cross cut north we have just passed through a lode 18 in. wide, yielding a little mundic, and spotted with copper ore, but as it is of no value we shall continue the driving north. In the 55 west we have cut through the lode west of the cross course, where it is 2 ft. wide, worth 3 tons of ore, or 17l. per fathom—a very promising looking lode. The lode in the 45 west is 4 ft. wide, yielding saving work for copper ore.

RELISTIAN CONSOLS.—J. Curtis, June 15: In the lode in Duke's shaft there are good stones of tin, with more mundic and blende in it, and from the kindly nature of the ground I think we shall have a change in the rock soon. The shaft is now 5 fms. below the 24.

ROMAN GRAVELS.—A. Waters, June 15: the 95 north is worth 3½ tons per fathom, and south towards new shaft the lode is also worth 3½ tons per fathom. The 95 south towards new shaft is worth 5 tons, and driving north the lode is worth 3½ tons per fathom. The 80, south of new shaft, is worth 8 tons per fm. The winze below the 65 is down 13 fms., and is on the eve of being holed to the said 80 end; lode and winze worth 8 tons per fathom. The 65, south of Stoke's winze, is worth 3 tons of lead per fathom. Stopes, &c., as for some time past. We have to-day sold 200 tons of lead ore for 2925l.

ROOKHOPE.—J. Blenkiron, June 14: I was over at the above mines with Mr. Teasdale, our engineer, on Wednesday last arranging what repairs were necessary to be done forthwith. We arranged to dispense with portable engine on shaft (which is in bad repair), and attaching the small engine for winding. It will both wind or draw the work, and drive jigging machinery; and as we can send the steam from the large boilers there will be a considerable saving of coal and time; cost of said alterations about 60l. Also the frame or woodwork on pit-head is getting into bad order and repair; the stone pillar is also giving way, to which beam, &c., is fixed; this must be put right at once, as it is not safe, which with raising pit-head will cost altogether (including alteration with engine) about 150l. When we get the pit-head raised it will give us more room as storage for deads, and better dressing accommodation. I trust we shall be able to make said alteration without much stop on dressing-floors. Pumps standing about five or six days. The 25 tons of ore is ready, I presume you will have sold the same. There is no material change or alteration in any part of the mine since last reported. We have stopped rise into top beds from adit level on account of a little water being tapped from upper sills; we are afraid if any quantity is loosened it will interfere with our stopings below, making the ground more difficult to work, and unsafe. The stopings on back of the 18 continues about the same, worth from 25 to 30 cwts. of ore per fathom for width of lode. No other change in ore work ings. We find we have about 5 or 6 fms. too little for water storage below the 42; after stopping dressing at night, water rises up into said 42 before next morning's shift commences on dressing-floors. The 42 is very much worse to clear than was anticipated; the ground has given way considerably above said level, and discovering a little shale, much more is broken down than we expected; it looks like taking two or three weeks more to secure it than was expected. Water is now very scarce for surface operations; if we had not sunk shaft and cut out storage we should have been nearly at a standstill. The Weardale Iron and Coal Company's line is now open again, and we are getting coal from them on better terms; have some difficulty in getting carting done. We want a quantity of stone carting done for building purposes, to raise shaft top, &c. Miners are plentiful at present; we had several applications for work this week, but are full handed at present.

ST. PATRICK.—W. Francis, June 14: I am glad to report that all the favourable features continue in the 120 yard north cross cut, the cross-course still having ore scattered throughout in a mixture of gossan, clay, and spar. I am in constant expectation of a valuable discovery in this driving. The 90 yard cross-cut in the black limestone progresses favourably. The 60 yard in the chert still goes on fast, and the indications are all that could be desired for cutting a main lode.

SOUTH DARREN.—J. Boundy, Wm. H. Boundy, June 12: We regret to say that nothing of any consequence has been done towards the sinking of the shaft during the last fortnight, not having a sufficient supply of water to keep the pumping-wheel working regularly day and night, however I am glad to say for the last two or three days we have had a few light showers of rain, which have increased the water a little; I hope we shall get more soon. All the other bargains throughout the mine have been kept going regularly, but there is no change of importance to notice. The short supply of surface water very much impedes the drawing and dressing, but the same has been kept going as fast as possible. We shall send out samples of a parcel of lead ore this week.

SOUTH ROMAN GRAVELS.—John W. Powning, June 15: Shelfield: The bearers and cistern are in their places, and we are now busy fixing the new plunger bottom. We should have been more forward with this work had the pin-holes of the flanges been correct. I have had a man from the foundry here two days chipping the holes, which are now finished.

SOUTH TOLCARNE.—J. Vivian and Son, J. Paull, June 15: At the 50 we have commenced driving north of the engine-shaft towards Fraser's lode, but have not yet got into clean granite, there being still branches of the engine lode traversing the rock, so that we cannot yet form a reliable opinion as to the hardness or otherwise of the granite through which we shall have to drive. In our next we may be able to give some information as to this.—Fraser's Lode: In the 40, both east and west, there is a good-looking lode, producing tin, and looking likely to improve, but not at present of any value. In the stope in the back of this level, east of Heathorne's winze, the lode is worth 15l. per fathom.

TANKERVILLE.—A. Waters, June 8: Setting Report: Watson's shaft to sink below the 167 by nine men, at 25l. per fathom; present depth 2 fm. 4 ft., we are sinking by the side of the great lode. The 167 to drive west of shaft by six men, at 14l. per fathom; lode 15 ft. wide, worth 14 tons of lead ore per fathom. No. 1 stope in said level, east of shaft cross-cut, by six men, at 7l. per fathom; worth 2 tons per fathom. No. 2 stope west of cross cut by six men, at 7l. per fm.; worth 4 tons per fathom. No. 3 stope, west of ditto, by six men, at 7l. per fm.; worth 5 tons per fathom. No. 4 stope, west of ditto, by six men, at 7l. per fm.; lode worth 6 tons per fathom. The stope in the 152, east of winze west of shaft, by six men, at 7l. per fm.; worth 3½ tons per fathom. The stope west of said winze by nine men, at 7l. per fm.; lode worth 4 tons per fathom. The 142 cross-cut, south of main lode, by two men, at 9l. 10s. per fathom. The stope in the 130 west, on south lode, by six men, at 7l. per fm.; worth 2½ tons per fathom. No. 2 stope in ditto by four men, at 7l. per fm.; worth 1½ ton per fathom. The 120 to drive west of shift, on south lode, by four men, at 11l. 10s. per fm.; yielding good stones of lead ore, and improving. The stope in the 100 west, on south lode, by four men, at 7l. per fm.; worth 2 tons per fathom. No. 2 stope by four men, at 7l. per fm.; worth 1½ ton per fathom. The 92 to drive north-east by four men, at 12l. per fm. The stope in the 82 west by four men, at 6l. 10s. per fm.; worth 2 tons per fathom. The stope in the 74 west by two men, at 7l. per fm.; worth 1 ton per fathom. The 74 to drive west of shaft by two men, at 9l. per fm.; producing stones of ore.

TANKERVILLE.—A. Waters, June 15: Watson's shaft, below the 167 fm. level, is down 3½ fms.; ground favourable for progress. We are sinking by the side of the lode. We are preparing to sink a winze below the 167, 17 fms. west of shaft, in a lode 12 ft. wide, worth 12 tons of lead ore per fathom. Other points without material change since last reported on. We have to-day sampled 150 tons of lead ore, for sale next week.

TEESDALE.—T. Watson, June 8: North End Workings: No change to notice with these workings; they are raising ore well.—South Level: Four men are now stoping out the vein from where it had been left off by the former workers. The vein as it is now being stoped is worth about 10 cwts. of ore per fathom.—Hopkin's Level: The men have got into some very broken and unsound ground with the rise. The whole of the vein is now off to the south side of the rise; it will take the men three or four days to secure their ground, and we will then cut over a few feet to prove the vein.—Surface Work: We sent the last of the 20 tons of ore sold during yesterday, and have about 6 tons left ready for another sale in the bingstead. Weather favourable, and all outdoor operations are going on well.

TEMPLE.—June 14: There is nothing special to communicate this week, but the lode is improving every day, the ribs of spar being thicker and more consolidated, and the spots of lead more frequent and larger.

110 end east is worth 7l. per fathom. A winze in the bottom of this level is worth 10l. per fathom. The 120 east is worth 12l. per fathom. The 120 east is worth 10l. per fathom. The 150 east is worth 6l. per fathom. A winze in the 150 west is worth 8l. per fathom. The 150 end, west of incline shaft, is worth 12l. per fm.

WHITEHAVEN IRON MINES.—April 19: Agent's report for month ending March 25: A stope in the back of new drift, above No. 1, has been worked, by two men, 12 fms. 5 ft., at 1l. 10s. per fathom. The new drift above No. 2 has been driven 3 fms. 4 ft. 8 in. at 3l. and 4l. per fathom, and a part of the lode in side of level taken down for 1l. 10s., as per contract, by two men. The lode here is large, but there is a great deal deal of granite embedded in the ore, which requires a deal of careful picking. No. 2 drift has been driven 2 fms. 5 in., by two men, at 5l. per fathom; the lode in the present end is small, but there is every indication of an improvement; the lode is letting out a great deal of water. This drift is suspended for the present. The stope in back of No. 3 has been worked 3 fms. 4 ft., by two men, at 2l. 5s. and 3l. per fathom; the lode is very good. The stope in back of No. 4 drift has been worked 1 fathom 5 feet 9 inches, by two men, at 3l. per fathom, and the rise put up 1 fm. 3 ft. 9 in., at 7l. 10s. per fathom. No. 5 drift has been driven 4 ft. 6 in. by two men, at 6l. 10s. per fathom, and stoped in back 8 fms. 2 ft. 8 in., by four men, at 3l. 10s. per fathom. We have also worked a good deal of ground on day-work. We have had employed 19 miners, three day men, four boys, one timberman, onesmith; total, 28 men and boys.

RAVENGLASS AND ESKDALE RAILWAY.—Receipts for March—Iron ore traffic, 79l. 4s. 9d.; other traffic, 18l. 11s. 6d.—97l. 16s. 3d.; working expenses, 57l. 18s. 9d.

— May 10: The stope in back of midway, south of No. 2 rise, has been worked 5 fms. 1 ft. 3 in., at 1l. per fathom, by two men; this stope is improving in width and quality, and a little harder for working. No. 1 stope, in back of midway north of No. 2 rise, has been worked on day-work by six and eight men; the lode is very large, and of good quality ore. No. 1 stope, in back of No. 1 drift, has been worked 1 fm. by two men on contract, at 4l. per fathom. We have also taken out a large portion of the footwall part of the lode, with four men on day-work. We have put a rise from the back of No. 1 drift 7 fms. 2 ft., by two men, at 1l. per fathom. The stope in back of the intermediate has been worked by four men 3 fms. 1 ft., at 2l. 10s. per fathom, and we have taken out the footwall part of the lode on day-work; this stope is suspended for the present. New drift, above No. 2, has been driven on the course of the lode 4 ft. 10 in., at 3l. 15s. per fathom, by two men, and we have cross-cut the lode and taken down the side of the level on day-work; this drift is suspended for the present. The stope in back of No. 3 drift has been worked by two men 3 fms. 5 ft. 4 in., at 2l. 15s. per fathom; the lode has become very good, most of it being hard kidney ore. I shall put four men in this stope as soon as possible. The stope in back of No. 4, north of No. 2, rise, has been worked by two men 5 fms. 3 ft. 6 in., at 2l. 10s. per fathom; the vein of ore is about 2 ft. 6 in. in width, hard kidney ore, and of good quality. No. 1 stope, in back of No. 4 drift, south of No. 1 rise, has been worked 6 fms. 4 ft. 4 in., at 1l. 10s. per fathom, by four men; this stope is not looking so good for ore as we are getting near the surface, being more mixed with sand and dirt. No. 5 drift has been driven 1 fm. 1 ft. 6 in., by four men, at 6l. per fathom. This drift is suspended for the present, but I would strongly recommend the driving of this drift with a full pare of men as fast as possible, as the indications for ore are very good. We had employed during the month 26 miners, 1 timberman, 1 smith, 4 daymen, 5 boys: total, 37 men and boys.

RAVENGLASS AND ESKDALE RAILWAY.—Receipts for April: Iron ore traffic, 107l. 4s. 2d.; other traffic, 14l. 13s. 1d: total, 121l. 17s. 3d. Working expenses, 58l. 16s. 8d.

— June 8: Agent's report for month ending May 20: No. 3 stope, in back of midway, south of No. 2 rise, has been worked 14 fms. 2 ft. 9 in., by two men, at 1l. 5s. per fathom. No. 1 stope, north of No. 2 rise, in back of midway, has been worked 19 fms. 4 ft., at 2l. per fathom; and a rise, put up 3 fms. 3 ft., at 3l. 10s. per fathom, by six men, through a good lode of ore, and is easy for working. We have six men working in back of No. 1 drift, on day work, where the lode is large and very good; and four men in back of intermediate drift opening up a stope, on day work, and I am very pleased to say the lode is improving. No. 2 stope, in back of No. 3 drift, has been worked 6 fms. 11 in., by two and four men, at 3l. 10s. per fathom; this lode has been very good, but at present is mixed with a little more stone, and will require to be carefully picked. No. 1 stope, in back of No. 3 drift, has been worked 9 fms. 3 ft. 3 in., at 1l. 10s. per fathom, by two men; the lode is very good. No. 1 stope, north of No. 2 rise, in back of No. 4 drift, has been worked 4 fms. 2 ft. 11 in., by two men, at 2l. 10s. per fathom; the lode is small, but of good quality ore. No. 2 stope, in back of No. 4 drift, north of No. 1 rise, has been worked 3 fms. 3 ft. 6 in., by two men, at 2l. 10s. per fathom; the lode is improving, and to all appearance we shall soon have a large course of ore here. No. 1 stope, south of No. 1 rise, No. 4 drift, has been worked 5 fms. 4 ft. 6 in., by two men, at 2l. per fathom; this stope is worked to a close. Other necessary work has been done, such as putting in stulls, making the ground secure, and taking down side of level to prove the lode. We have had employed during the month 29 miners, 7 daymen, 5 boys, 1 smith, 1 timberman; total, 43 men and boys.

RAVENGLASS AND ESKDALE RAILWAY.—Receipts for May: Iron ore, 163l. 8s. 7d.; other traffic, 16l. 6s. 1d. = 179l. 14s. 8d. Working expenses, 51l. 2s. 4d.

MINING NOTABILIA

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

SOUTH CROFTY.—An important improvement is reported to-day for copper ore at the 160, on the south lode, west of East Pool boundary; here the lode is very large in places, 20 ft. wide, and the tributers are constantly discovering side lodes of great value, and from which they are well paid for their labour. The mine throughout presents a most promising appearance, and great hopes of a profitable future are before the persevering adventurers. The question of the consumption of coal will be fully discussed at the next meeting; this is an important matter to be brought before the adventurers. If 1 ton of tinstone can now be stamped at East Pool from the same lode and precisely of the same character for about 100 lbs. of coals we fail to see the reason why 196 lbs. should be consumed in stamping the same quantity in this mine.

IMPORTANT DISCOVERY IN NORTH DEVON.—Promising silver-lead has been discovered by an experienced tributor in a trial shaft in North Devon. The water coming from No. 1 lode could not be kept by barrels, and splendid spar, mundic, and lead are being taken out, and he believes there is a good lode on the footwall. Five lodes run through the sett, there is a good stream of water, and the dues are but 1-18th. The discoverer is seeking the co-operation of capitalists.

THE WALLAROO SMELTING WORKS.—It is mentioned in the "Wallaroo Times" that a small portion of the principal stack of chimneys at these works is being removed in order that an iron top may be substituted. The stack is about 140 ft in height, but the proprietors contemplate the erection of one 270 ft. high. This will be of colossal proportions, and its erection will indicate the faith felt in the future of the copper mining interest of South Australia.—*South Australian Register*, April 21.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 2	Minera	56	£14 10 6	St. Helen's Smelt. Co.
—	ditto	60	14 2 6	Walker, Parker, & Co.
—	ditto	52	14 2 6	ditto
—	ditto	30	14 3 6	ditto
—	ditto	17	14 10 6	St. Helen's Smelt. Co.
—	ditto	8	14 9 0	Nevill, Druce, & Co.
8	West Tankerville	25	14 13 0	ditto
—	Tan-yr-Allt	10	13 2 6	Sheldon, Bush, and Co.
9	Powell Consolidated	20	13 17 6	ditto
12	Lisburne—Glogfach	16	18 0 0	Treffry's Estate.
—	„ —Glogfawr	40	15 3 6	Sheldon, Bush, & Co.
—	„ — ditto	40	15 5 0	Treffry's Estate.
—	East Darren	40	18 2 6	ditto
13	Foxdale	100	22 10 6	ditto
15	Roman Gravels	50	14 16 6	Adam Eyton.
—	ditto	50	14 13 0	Nevill, Druce, and Co.
—	ditto	50	14 9 0	ditto
—	ditto	50	14 12 6	Sheldon, Bush, and Co.
16	Rookhope	25	12 2 6	Jacob Walton and Co.

BLENDE.

Date.	Mines	Tons.	Price per ton.	Purchasers.
June 2	Minera	50	£ 5 11 6	Kenrick and Son.
—	ditto	23	5 12 6	ditto
—	ditto	47	5 10 0	ditto
—	ditto	47	5 12 6	ditto
—	ditto	20	4 10 6	Bagillt Smelting Co.

COPPER ORES.

Sampled May 31, and sold at Swansea, June 13.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cape Ore	62	35½	£27 5 6	Berehaven	120	7¾	£5 18 0
ditto	62	35½	27 5 6	ditto	118	7¾	5 17 0
ditto	62	35½	27 9 6	Knockmahon	188	7½	5 5 6
ditto	61	35½	26 14 0	ditto	119	8	5 19 0
ditto	68	29¾	22 4 6	ditto	66	3¾	2 1 0
ditto	68	29¾	24 3 6	Yelta Ore	98	8¾	6 3 6
ditto	23	30¼	23 2 0	ditto	100	10½	7 6 6
ditto	79	27½	20 11 6	Australian	38	9½	6 17 0
ditto	79	27½	20 11 6	ditto	80	8¾	6 11 0
ditto	79	27½	20 12 6	ditto	11	12½	9 6 0
ditto	79	27¼	20 10 6	ditto	5	14	10 4 6
ditto	79	27¼	20 11 0	Cronebane	70	2½	1 4 6
Berehaven	123	7¾	5 16 0	Tigrony Pre.	12	40	29 17 0
ditto	54	9½	7 3 0				

TOTAL PRODUCE.

Cape Ore	803	£18,436	2 0	Australian Ore	84	£610	4 6
Berehaven	415	2,497	16 0	Cronebane Ore	70	55	15 0
Knockmahon	323	1,571	6 0	Tigrony Precip.	12	358	4 0
Yelta Ore	198	1,337	13 0				

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
P. Grenfell and Sons	199	£ 2,331 9 6
Nevill, Druce, and Co.	79	1,021 9 6
Vivian and Sons	613	5,425 19 6
Williams, Foster, and Co.	671	8,856 5 6
Charles Lambert	208	3,642 13 6
Sweetland and Co.	136	3,019 4 0
Total	1905	£24,297 0 6

TOTALS AND AVERAGES.

21 cwts.	Produce.	Price.	Per unit.	Standard.
Whole sale ... 1905	17¼	£13 1 4	15s. 1d.	£ 97 11 3

Copper ores for sale on June 27.—Cape Ore 584—Berehaven 220—Australian 144—Cronebane Ore 83.—Total, 1031 tons.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: The Sulphur Mines of Italy; Mining in the East, No. V.: Australia—On Mining, Smelting, &c. (J. Hunt); On the Application of Counterbalancing and Expansion to Winding-Engines (W. Page); the Tin-Plate Trade (R. Meade); The Copper Standard; Boring Machines for Mines—Example Better than Precept; Unwrought Mining Ground of Cornwall (C. Bawden); Deposits of Copper at Nantlle Vale, Carnarvonshire (J. Roberts); Cardiganshire Mines; New Consols—Foreign Mining and Metallurgy—Registration of New Companies—The Industrial Uses of Aluminium—Boring Machines for Mining—Foreign Mines—Patent Matters.—Meetings of West Pateley Bridge, South Wheal Frances, Silver Plume, Wheal Grenville, New Prince of Wales, West Wheal Gorland, Wheal Peevor, Pennerley, Frontino and Bolivia, and East Nant-y-Mwyn Companies, &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JUNE 16, 1876.

IRON.	£	s. d.	£	s. d.
Pig, GMB, f.o.b., Clyde..	2	17 6-	—	
,, Scotch, all No. 1 ...	2	18 0-	3	8 0
Bars, Welsh, f.o.b. Wales	6	0 0-	6	5 0
,, ,, in London.	6	15 0-	7	0 0
,, Stafford., ,,	8	0 0-	9	15 0
,, in Tyne or Tees ...	6	10 0-	—	
,, Swedish, London ..	12	0 0-12	10	0
Rails, Welsh, at works..	5	10 0-	6	0 0
Railway chairs	—	—	—	
,, spikes	—	—	—	
Sheets, Staff., in London	10	10 0-	—	
Plates, Staff., in London	10	0 0-12	0	0
Hoops, Staff.	8	15 0-10	0	0
Nail rods, Staff. in Lon.	7	15 0-	8	2 6
STEEL.				
English, spring	14	0 0-23	0	0
,, cast	25	0 0-45	0	0
Swedish, keg.....	18	0 0-	—	
,, fag. ham.	19	0 0-	—	
LEAD.				
English, pig, common .	21	0 0-21	5	0
,, ,, L.B.	21	5 0-	—	
,, ,, W.B.	22	10 0-	—	
,, sheet and bar..	22	0 0-22	10	0
,, pipe.....	23	0 0-	—	
,, red	24	0 0-24	10	0
,, white	28	0 0-29	10	0
,, patent shot ...	25	10 0-	—	
Spanish.....	20	10 0-20	15	0
QUICKSILVER.				
Flasks of 75 lbs., ware.	9	0 0-	—	
SPELTER.				
Silesian or Rhenish ..	23	5 0-	23	10 0
English, Swansea	23	10 0-	—	
Sheet zinc	28	0 0-	28	10 0

TIN.	£	s. d.	£	s. d
English, ingot, f.o.b...	78	0 0-	78	10 0
,, bars ,, ...	79	0 0-	79	10 0
,, refined.....	80	0 0-	—	
Australian	73	10 0-	74	0 0
Banca	77	0 0-	(nom.)	
Straits	73	15 0-	—	
COPPER.				
Tough cake and ingot.	82	0 0-	83	0 0
Best selected	84	0 0-	85	0 0
Sheets and sheathing.	87	0 0-	87	10 0
F at Bottoms	91	0 0-	—	
Wallaroo	81	0 0-	81	10 0
Burra, or P.C.C.	81	0 0-	81	10 0
Other brands	80	0 0-	—	
Chili bars, g.o.b	76	0 0-	—	
PHOSPHOR BRONZE.				
Bearing metal	£112	0 0		
Other alloys £120	0	0-	140	0 0
BRASS.				
Wire	8¼d.-	—		
Tubes.....	9	-12d.		
Sheets	9	-10		
Yel. met. sheath. & sheets.	7½	- 8		
Nails composition.....	9	-10½		

TIN PLATES.*	per box.			
Charcoal, 1st quality ...	1	5 0-	1	6 0
,, 2nd quality ...	1	2 0-	1	4 0
Coke, 1st quality	1	0 0-	1	1 0
,, 2nd quality	0	18 6-	1	0 0
Black .....per ton	17	0 0-	17	10 0
Canada, Staff. or Gla., at Liverpool	13	0 0-	13	10 0
Black Taggers, 450 of 14 × 10	30	0 0-	—	

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The past week has been as uneventful as many previous weeks have been, and there is no indication of any material change taking place at present. The whole state of business in this country and on the Continent must become vitalised before any one department of trade can be expected to exhibit a return to normal activity, and it is impossible to say what ordeal may yet have to be passed through before confidence is restored and business returns once more to its accustomed channels. The condition of the political atmosphere still continues to be far from encouraging as to the speedy recurrence of better times, and the future is so burdened with the weight and entanglement of possible complications that the wisest course is to be chary of entering upon business involving the necessity of serious commitments, or of such as run over a lengthened period. Acting upon this maxim, sellers as a rule show an indisposition to enter upon forward contracts, and buyers limit their purchases to the requirements of the moment; and those projects which demand a large outlay and the settlement before hand of a plan of operations, are set aside for the present. Thus, and thus only, can serious calamities be averted, panics be warded off, prices maintained, works kept going, and the whole organisation connected with the metal trade preserved intact. The fortunes that were made in days gone by can no longer be amassed, and in many cases the policy of abstention may involve immediate loss; but it is better to endure present temporary inconvenience than recklessly to enter upon a line of business which, while holding out the possibilities of profitable results, such being in ordinary times fairly deducible from the existing condition of things, might, owing to the unsettled aspect of affairs, be wholly upset. The news from Turkey to-day announcing the assasination of the principal Ministers of State, and the serious wounding of a third, has not tended to improve matters, and naturally greater uncertainty must overhang the future. Meantime there is no particular change to report in the position of our markets. The Bank return is strong, and there exists a plethora of money for all legitimate purposes.

COPPER.—The course of this market has been towards lower prices and increased dulness. This is mainly to be attributed to the fact that stocks of Chili produce are on the increase, and considerable quantities of Australian copper and from Lake Superior have been put upon the market for sale. There seems to be a very general opinion that the second half of the present year will witness the arrival of full supplies from the West Coast, and should this be so the copper market will, doubtless, suffer from yet further depression. The stocks of Chilian and Bolivian in Liverpool and Swansea are calculated to represent on the 15th inst. about 12,168 tons, as against 10,806 tons at the end of May, showing an increase of 1362 tons, but on June 15 of three preceding years the stocks, as above, stood respectively at 13,675 tons, 17,000 tons, and 23,000 tons, so that present stocks are considerably lower than in former years, but it must be borne in mind that the demand for home consumption or for shipment is not now what it has been in former years, and such stock as were then held without much anxiety as to their being ultimately disposed of at current rates would now cause a very serious drop in prices. The market for Chili bars, which closed last week at 77*l.* to 77*l.* 10s., opened at the beginning of this week 10s. under, but without inducing buyers to come forward. During the week the market has been very sluggish, and quotations have for g.o.b. fallen to 76*l.*, 76*l.* 10s. A cargo of nearly 20 0 tons of ore of an average produce of 17¼ per cent. has realised at Swansea 15s. 2d. per unit, and Cape ore at 15s. 3¼d., and Bolivian ore and regulus is reported to have been sold at 15s. and 17s. 6d. respectively for arrival. Australian is quoted 81*l.* to 81*l.* 10s.; English tough copper is quoted 82*l.*; best selected, 83*l.*; strong sheets, 88*l.*; and 4 by 4 sheets, 87*l.* to 88*l.* Yellow metal is quiet, and for this metal and manufactured copper there is very little enquiry.

IRON.—The return of the make and shipments on foreign account and coastwise of pig-iron in the North of England for the month of May may be looked upon as satisfactory, and as being more favourable than there was reason to expect. The quantity of iron shipped on foreign account amounted to 36,753 tons, and coastwise 32,440 tons. The output during the month was 179,688 ton. On the last day of the month stocks in makers' hands amounted to 115,867 tons, and warrants 1935 tons. The total furnaces in blast were 119, and out of blast 39. Up to the present time this market has been well sustained, and by limiting the production stock have not materially increased. The returns for May being of a more favourable character than was expected, it may be that, notwithstanding the apparent indications of a falling off in the demand, and the prospect that as the season advances the demand may not be maintained, these prognostications may prove unfounded, and that the business in pig iron during the remainder of the year may be equal to that of the first half-year. The quotations are—No. 1, 50s.: No. 3, 46s.; No. 4 forge, 44s. There is no improvement in the demand for railway bars, and this department of trade being greatly depressed is the most serious feature in the position of affairs in the North. Merchant bars are very dull, and so are shipplates, but quotations remain unchanged.

Since the Whitsuntide holidays there has been no change of importance to note in the position of the South Wales iron trade, but if it cannot be said to show indications of any marked improvement, it cannot, on the other hand, be said to be in a worse condition than before. The fact that a shipment of rails has taken place for the Baltic, if it does not indicate that the trade with Russia is opening up again, is at all events a satisfactory evidence that there is a possibility of such an eventuality occurring. The Swedish demand continues, and forms now, as for some time past, an important support to the market. But all the sources of demand combined are insufficient to afford even a moderate supply of employment to the very large number of hands accustomed to the iron industry in South Wales, and the consequence is that many of the works are standing wholly or partially idle. The Conciliation Board are engaged in discussing the settlement of the rate of wages for the six months ending Dec 31, and considerable anxiety is felt on this point. It is most unlikely that in the present state of affairs the rate of wages will be advanced, but the consideration cannot be agreeable to a large number of the population that there is a probability of a lower rate of wages ruling during the next six months than that which has been deemed insufficient in the past.

The market for Scotch pig iron has been steady but quiet throughout the week, and closes to-day at 57s. 6d., which is about the price at which it closed last week, and the week before, and at which it has stood with but little variation during the fortnight.

SHIPMENTS.

Week ending June 12, 1875	Tons 11,625
Week ending June 10, 1876	10,330
Decrease	1,295
Total decrease for 1876	34,310

LEAD.—The market has been quiet throughout the week, and prices have ruled rather in buyers' favour. Good soft English pig is quoted 21*l.*, and soft Spanish, without silver, 20*l.* 10s.

SPELTER.—The market is steady, Silesian ruling at 23*l.* 10s., and English hard, 18*l.* nominal.

QUICKSILVER.—In first hands in quantities the price continues to be 9*l.*; and in second hands, 8*l.* 17s. 6d. has been accepted.

TIN.—The market for both Straits and Australian has been very quiet during the week, and though quotations have scarcely altered from day to day, there is little doubt but that sellers would be ready to submit to a concession upon current quotations so as to effect sales. Straits and Australian rule about 73*l.* 15s.; and 5 tons to-day at 73*l.*, with exceptional conditions.

TIN PLATES.—The market is still as dull as ever, and without prospect of amendment.

THE IRON TRADE (Griffiths's Weekly Report).—Friday Evening. The Glasgow market for Scotch pig-iron has been inanimate during the week. Warrants close this evening in Glasgow at 57s. 6d., buyers, exactly the same as the closing price this day week. There has been little doing in makers' iron this week. We quote No. 1 Gartsherrie, 65s. 6d.; Coltness, 69s.; Calder, 67s.; Langloan, 68s.; Monkland, 58s. 6d., f.o.b. Glasgow; Glengarnock, 63s. 6d.; Eglinton, 57s., f.o.b. Ardrossan; Shotts, 65s., f.o.b. Leith; Kenniel, 59s., f.o.b. Bo'ness.

The general iron trade continues inanimate. The absence of activity is witnessed in all the iron-making districts of the United Kingdom. The section of the trade which suffers most from the depression is the smelting; the profit of this class now is reduced to a point never before known. This unfavourable state of things is severely felt by the smelters in Staffordshire, Shropshire, Northamptonshire, Derbyshire, Lancashire, the West Coast of Cumberland, North and South Wales, and Scotland; and even the Cleveland smelters, whose facilities are the greatest, and the price of coal and ironstone lower than any other part of England, are not all able to run the metal out at a profit.

The exchanges of Middlesborough, Barrow-in-Furness, Birmingham, Manchester, Leeds, and Glasgow have all ministered in their transactions to this unhappy state of things this week. The severe depression in this department is mainly owing to the fact that the smelters and coalowners are brought face to face with the labour market, and have to fight the battle for lower prices through the great difficulties which the labour market presents. Nevertheless, inch by inch, the masters are compelled by stern necessity to press the question, and by painful experience are gradually assisted by the men in getting to the bottom of prices in coal and labour, and when this is achieved reaction will doubtless set in; this, however, cannot be expected for a few months to come. The manufacturing trade, although depressed, suffers less than the smelters; for while the manufacturers in Middlesborough and South Wales complain bitterly of attenuated profits, and compete keenly for orders for commonest iron, the Staffordshire makers, and one or two Shropshire houses, have orders to keep the works running, now the holidays are over, pretty regularly; and the best makers of boiler-plates in both these counties have orders to keep their mills running full time.

The makers of marked bars in North and South Staffordshire have received some good orders since the holidays. Robert Heath and Son and the Shelton Bar Company have had some good accessions to their order-books during the last ten days. The Round Oak; the Lion; B B H, the Mitre; and W. Millington and Co., are also supplied with orders at full list rates to keep the works running; and with regard to the second-class makers in Staffordshire, the trade is better with them than with the same class of makers in any other part of England. With regard to pig iron, the stocks are increasing, as a rule, everywhere. This remark applies particularly to Shropshire, Northamptonshire, and the hematite districts on the West Coast; but here we may remark that the stocks at the great Barrow Works, Carnforth, and Millom are low, and although the demand for hematite pigs is inanimate, the makers on the West Coast continue firm holders at late prices, for although hematite ore is now reduced to 14s. per ton into trucks, there are no stocks of ore, and the mineowners are discharging the men and reducing the output at some of the principal mines in West Cumberland and Lancashire, owing to the difficulty they find in raising the ore at the present price in face of the high wages paid to the miners.

We have no change to notice in the tin-plate trade. The demand continues quiet, and the export trade inanimate.

The Birmingham Quarter Day will be held on the 13th prox.

Messrs. HARRINGTON, HORAN, and Co. (Liverpool, June 15)—Arrivals here during the fortnight of West Coast, S.A., produce: Singapore, from Valparaiso, 50 tons bars; Chevy Chase, from Valparaiso, 49 tons bars; Illenani, from Valparaiso, 490 tons bars, 100 tons ingots; Adelaide Mary, from Valparaiso, 50 tons bars; Glencarn, from Valparaiso, 19 tons bars.—At Swansea: Ianthe, from Lota, 610 tons bars; Kate Helene, from Lota, 950 tons bars. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	—	.....	7724	398	9
Swansea	1145	2359	2736	—	18
Total	1145	2359	10460	398	27

Representing about 12,168 tons fine copper, against 10,806 tons May 31; 13,675 tons June 15, 1875; 17,000 tons June 15, 1874; 23,000 tons June 15, 1873. Stock of Chili copper in Havre, 5689 tons fine. Stock of Chili copper afloat and chartered for to date, 8777 tons fine. Stock of foreign copper in London, chiefly Australian, 5571 tons fine. According to advices from Valparaiso the comparative exports of fine copper from Chili and Bolivia to all parts of the world during the first three months of the following years were—1876, 13,488 tons; 1875, 12,324 tons; 1874, 12,289 tons; 1873, 8563 tons; 1872, 12,163 tons; 1871, 10,171 tons; 1870, 14,370 tons.

Messrs. SANFORD and BIRD—IRON: Although general trade is much restricted, and business is confined to consumers' and shippers' barest wants, a glance at the following Board of Trade returns will show that our exports compare most favourably and hopefully with those of the previous months and years.

Total exports of iron and steel:—

	1874—tons.	1875—tons.	1876—tons.	£.	£.	£.
				Value.		
January	150,384 ...	154,737 ...	133,998 ...	2,164,238 ...	1,839,966 ...	1,449,519
February	150,974 ...	154,765 ...	135,325 ...	2,207,619 ...	1,867,873 ...	1,185,858
March	192,255 ...	184,067 ...	149,194 ...	2,645,488 ...	1,990,428 ...	1,523,142
April.....	216,135 ...	237,184 ...	185,822 ...	2,787,358 ...	2,476,644 ...	1,709,726
May	247,103 ...	218,863 ...	233,054 ...	3,147,871 ...	2,325,133 ...	2,082,931

COPPER: Chili bars remain quiet, with very little business doing. Australian is also neglected, and prices have relapsed to 81*l.* 10s., 82*l.* for Burra and Wallaroo. English manufactured is somewhat easier.—TIN: We have had a very steady market during the past week, with more disposition to buy, and prices close firm at our quotations. The following statistics are from the Board of Trade returns:—

	1874.	1875.	1876.
Imports of foreign tin, Jan. 1 to May 31.....Tons	3189	8840	7643
Exports do. do.	930	1687	2813
Exports of English tin do.	3933	2276	2334

TIN-PLATES: Prices of tin plates remain low and unprofitable, and makers are only taking sufficient orders to keep their works going for two weeks in every three.—LEAD closes somewhat lower in price. English pigs 21*l.* to 21*l.* 5s.; soft Spanish, without silver, 20*l.* 10s. to 20*l.* 15s.—QUICKSILVER is now obtainable at 9*l.* per bottle.

Messrs. HENRY ROGERS, SONS, and CO.—The demand in the week has been too small to prevent forced realisations. Finished iron is decidedly cheaper; pigs maintain their price. Chili Copper has dropped 1*l.*, Australian 2*l.*, English 30s.; the volume of trade being more limited than ever. Tin, spelter, and lead are all quoted easier. Quicksilver has been dealt in at 8*l.* 17s. 6d.

Messrs. PIXLEY and ABEL—GOLD continues to flow into the Bank, there being no demand for export, the sum sent in since our last circular being 550,000*l.* We have received during the week 20,500*l.* from the Pacific, 44,000*l.* from the Brazils, 21,900*l.* from the West Indies, 120,000*l.* from New York, 288,000*l.* from Australia, &c. = 444,800*l.* The Tagus has taken 7500*l.* to the Brazils, and the Netherlands 10,000*l.* to Batavia.—SILVER has fluctuated during the week from 51¾d. to 51¾d. per oz.—buyers at the former, sellers at the latter rate. The amount by the West India steamer has been placed at 51 13-16ths per oz. We have received during the past few days 31,500*l.* from the Pacific, 14,000*l.* from the West Indies, 32,600*l.* from New York = 78,100*l.* The P. and O. steamer leaving to-day (June 15) takes 47,000*l.* to India.

The MINING SHARE MARKET has been dull and rather depressed since our last, and the settlement of the fortnightly account has occupied the chief attention of the dealers this week.

As most of the dividend mines are looking well, and many progressive properties are holding out prospects of early success, such as in ordinary times would cause a rush for the shares, we can only attribute the present absence of business and disinclination to speculate to the general depression which seems just now to hang over all markets alike.

The principal transactions this week have been in Parys Mountain, Glenroy, Penstruthal, North Laxey, Wheal Kitty (St. Agnes), Tankerville, Rookhope, Pateley Bridge, West Tankerville, South Condurrow, West Chiverton, Pennerley, Marke Valley, Prince of Wales, and a few others.

Roman Gravels, 15 to 15½; the 95 north is worth 3½ tons of lead ore per fathom; the 95 south, 5 tons. The sale of lead ore for the month—200 tons—realised 2927*l.* Tankerville, 10 to 10½; the sampling for the month is 150 tons of lead ore. West Tankerville, 1⅞ to 2; the 65 south is worth 2 tons of lead ore per fathom. Great Laxey, 17 to 17½; North Laxey, 19s. to 21s.; Rookhope, ⅞ to 1⅛. Glenroy, 7 to 8; the lode in the winze continues worth 80*l.* per fm. The water for the wheel is falling short, and a portable engine is to be obtained to see the lode at the 40 and the deeper points. Like Great Laxey, the mine is worked inexpensively by water-power, which generally fails for two or three of the summer months, when auxiliary power is necessary.

Pennerley, 1½ to 2½; the accounts for six months ending Oct. 31 lasts show costs, 5160*l.* 3s. 7d.; returns, 3595*l.* 17s. 6d.: loss, 1564*l.* 6s. 1d. For the six months ending April 30 the costs were 5601*l.* 4s. 11d.; the returns 320 tons of lead and 20 tons of blende; total, 4870*l.* 14s. 9d.: loss, 730*l.* 10s. 7d. The statement of assets and liabilities shows a balance of 813*l.* 5s. 10d. assets over the latter, the capital in hand when the accounts commence (3000*l.*) having been reduced to that sum. The agents "consider there is great encouragement in the general prospects of the various points of operations throughout the mine, and if only the speculative trials prove tolerably successful they will be able to meet the returns more readily, and eventually to increase the quantity." Devon Great Consols, 3 to 3½; the monthly sale of copper ore here is 731 tons. The mine continues to look well. Bedford United, 10s. to 15s.; Carn Brea, 36 to 38.; Cook's Kitchen, 3½ to 4; Dolcoath, 35 to 37; Glyn, 3 to 3½; Ladywell, 1⅜ to 1½.

Parys Mountain shares have again been largely dealt in, and leave off 16s. to 18s.; the ground in the 90 cross-cut, the agent writes, is getting more mineralised, and the branches of sulphur mixed with copper recently passed through may be feeders to a strong lode. Water is still bursting from the forebreast, and highly charged with copper. The 45, east of Dyer's shaft, has improved. Prince of Wales, 3s. 6d. to 4s. 6d.; the lode in the 55, west of cross-course, has improved to 2 ft. wide, worth 3 tons of copper ore, or 15*l.* per fm. The 45 west is 4 ft. wide, saving work for copper.

East Van, 9 to 9½; there are still spots of lead, but not sufficient to value, in the 25 west. The cross-cut south, towards Tempest's shaft, has been driven 24 ft; here also there are spots of lead. Van, 36 to 38; Van Consols, 1½ to 2⅝; West Chiverton, 17 to 18; West Craven Moor, 10½ to 11. Pateley Bridge, 3½ to 4; the Lamb vein, in the south cross-cut, is worth 13*l.* per fathom for lead ore. Fielding's lode, in the 20, is worth 18*l.* per fathom. Other parts are looking well. Smelting the lead will be commenced next week. Great West Van, 10s. to 12s. 6d.; St. Patrick, 1¼ to 1½. Wheal Crebor, 2 to 2½; the lode in the 48 east is worth 10*l.* per fathom; the two stopes in back of this level 30*l.* and 25*l.* per fathom respectively. Grogwinion, 5½ to 6¼; this mine has sold 100 tons of lead ores, at 14*l.* 17s. 6d. per ton. New Rose warne, ¼ to ⅜; a good improvement has taken place in the 67 end, where the lode is 3 ft. wide, worth 10*l.* per fathom for rich yellow copper ore. Marke Valley, 1⅜ to 2; Old Treburgett, 5s. to 10s.; Penstruthal, 17s. to 18s.; Plynlimmon, 8s. to 10s.

At the Wheal Peevor meeting, in Cornwall, a call of 4s. per share was made. The accounts showed a loss on four months' working of 457*l.* The costs charged up to May amounted to 2651*l.* Credits Black tin, 875*l.*; tinstone, 1300*l.* The shaft has been sunk to the 70 level, and the lode cut into 7 ft., and, as far as seen, worth 35*l.* per fathom. South Condurrow, 3¼ to 4¼; Tincroft, 18 to 19; Wheal Agar, 2½ to 3. Wheal Grenville, 15s. to 20s.; at the meeting a call of 5s. per share was made. West Pateley Bridge, 5 to 5½. Hingston Consols, ordinary shares, 15s. to 17s. 6d.; preference shares, 19s to 21s.

Chontales, ⅜ to ⅝; advices show costs (including 97*l.* 9s. contractors work), 431*l.* 19s.; gold returned, 147 ozs., 280*l.*: loss, 151*l.* 19s. Javali, 5s. to 7s. 6d.; the advices show a remittance for the month of 545*l.*; expenditure, including 159*l.* on capital account, 803*l.* Owing to the Easter holidays it is stated this mill only worked 12 days. Eberhardt and Aurora, 8⅞ to 9½; Flagstaff, 1⅞ to 2; Frontino and Bolivia, 2 to 2½; Richmond, 8 to 8½; San Pedro, 1⅜ to 2; Sweetland Creek, ⅝ to ¾; Santa Barbara, 1½ to 2; I.X.L., 1 to 1½.

The Market for Mine Shares on the Stock Exchange has been active during the week, and prices in most descriptions have been fairly maintained, lead mines having met with a considerable amount of favour. The fortnightly settlement has passed off satisfactorily, and prices generally show an upward tendency.

St. John del Rey, 340 to 360; the produce for May was 43,000 oits., of the value of 16,662*l.*, the average yield of the ore treated being 7·8 oits. per ton. All is going on well. The April produce was 41,000 tons, and the average yield of the ore treated was 8 oits. The quality of the mineral was, therefore, nearly similar, and the diminution of the profits appears to be entirely due to the temporary delays caused by necessary repairs to the water-course, &c. It would appear that about 500 tons more stone was treated in May (say, 5512 tons) than in the preceding month, and the average yield of the ore increased in each of the three divisions of the month, so that they are probably again getting on the better quality general mineral. It may be anticipated that the May profit will approach 10,000*l.*, which is certainly not unsatisfactory.

Richmond, 8¼ to 8⅜; the telegram gives the week's run at 842,000; the refining this week produced 26,000 in dore bars. The manager reports that the drift now midway between the 600 and 700 ft. levels had been run 60 ft., the end being still in good ore; and the drift at the 700 continued to the extent of 40 ft. in good ore. The ore body at this important point of the mine is thus already proved to be large, and is known to be high grade; cross-cuts will shortly be commenced to prove the breadth. The Nos. 1 and 2 stopes, at the back of the 600, are also reported to be opening out well, and fresh proof is thus being gained of the probable correctness of Professor Price's opinion that the ore will be found to extend upwards to a junction with the 200. Information has also reached the office that between the 400 and 500 ft. levels, where the ore was reported to have been worked out, a body of good ore is being opened, which will aid in making up the reputed deficiency at the point in question in Prof. Price's estimate of reserves of June 4. The opinion expressed by the manager that, "on the whole, the mine is looking much better than it has for some time past," is confirmed by the later cabled information of the new strike at the 800 ft. level. Exchequer, 1⅜ to 2; the mannager has returned from Peavine fully satisfied with the merits of the O'Hara furnace, which is guaranteed to chlorodise 90 per cent. of gold and silver ores. The mines are opening out in every way satisfactorily, and when the furnace is in full work highly satisfactory results may be expected. I. X. L., 1 to 1⅛; these shares continue to command a large amount of attention, heavy purchases having been made during the week. Active operations have been resumed at the mines, and the report (expected in a few days) is being looked for with great interest.

Silver Plume, ¾ to 1; the half-yearly meeting was held on Wednesday, and there is now every confidence that the company will speedily be in legal possession again. The case of this mine affords another instance of the shortsightedness of American vendors, and of their readiness, when permitted, to kill the goose for the golden eggs. The company purchased for 50000*l.* in cash, and 25,000*l.* payable out of one moiety of the profits to be realised. A dispute as to whether certain receipts should or should not be regarded as profits led to litigation against the company, but the company obtained the verdict. As an amicable settlement, and to prevent future disputes, the company offered to reconstitute, giving one-third of the stock in the new company to the vendors in lieu of the 25,000*l.* contingent, the shareholders receiving the other two-thirds. The vendors refused to accept less than five-sixths of the new stock, because one-sixth only of the purchase-price had been paid. A more absurd line of argument could not be conceived. In valuing the 25,000*l.* for liquidation by a present payment both the risk of the 50,000*l.* profits not being realised at all, and the probable length of time and expenditure of capital required to realise them, assuming them to be earned, would be taken into consideration by any competent actuary or man of business, so that one third of the new stock will be found to be an extremely liberal offer. The remedy, however, was very simple. The shareholders of the Silver Plume Company should have created a guarantee fund of (say) 5000*l.* by the issue of debentures to that amount, such fund to be applicable only to the payment to the vendors of the proportion of any of the company's receipts concerning which disputes may arise between the vendors and the company as to whether they are or are not to be regarded as profits. The mine is stated to be valuable, and as the shareholders have now learnt that their rights are worth defending, and are determined to maintain them, the vendors may yet regret that they refused the very handsome offer of one-third of the proposed new stock.

South Aurora, ⅜ to ½; the directors have issued a circular letter, in order to ascertain the views of the shareholders with regard to a contract which the directors have made provisionally with the Eberhardt and Aurora Company, to pay them 5000*l.* for driving a tunnel 800 ft. long through their property north and south, right of way in perpetuity being given from the South Aurora Mine to their mills free of all tolls. As it is estimated that the tunnel will cost the Eberhardt and Aurora Company 30,000*l.*, the proposed arrangement would appear to be equitable. The desirability of the tunnel has long been recognised from its great importance for the exploration of South Aurora in depth, and for the utilisation of the company's mill; and the present arrangement will permit of its construction at a comparatively small outlay. The east and west tunnel, through Treasure Hill, for which the company's co-operation was recently sought, offered no such advantages as the present, which, apart from the value of the ore found, will result in a great saving in its transport through the tunnel (open always), instead of by the common roads, frequently impassable for three or four winter months, during which time, of course, no one can go forward to the mill.

Frontino and Bolivia, 2⅛ to 2⅜; at the meeting on Tuesday, fully reported in another column, the Chairman's statement showed the concern to be in a very satisfactory condition. The balance at debit

of profit and loss account at the end of June, 1875, was transferred to capital account. The profits on six months to end of December last amounted to 4177*l.* 19s. 2d. A dividend of 1s. per share was declared, and 1427*l.* 19s. carried forward. In the last accounts the amount of gold produced was 16,000*l.*, and in the last six months it was 17,155*l.* In the course of his remarks the Chairman observed that, looking at all the circumstances, he thought he might fairly say that they had at last come into that state in which dividends were as nearly certain as possible in a mining undertaking. As the present prosperous condition of the enterprise is chiefly due to the exertions of the chairman, who is, moreover, one of the largest shareholders, there need be no doubt as to his anticipations being fully justified by the circumstances.

The directors of the Eclipse Gold Mining and Quartz Crushing Company are exerting themselves to carry out the resolution of May 18, reported at the time, and at which it will be remembered the urgent necessity of raising more capital for increasing the gold-saving appliances was discussed. Recent advices from Capt. Eudey strengthen the view that with these additions gold will be extracted in better paying quantities. The funds are to be provided by a further issue of ordinary shares; and the calls upon these, to the extent called up on the existing shares, will extend over not less than 16 months. The directors and their own immediate friends will take up their quota of the present issue.

Condes of Chili, 6 to 6¼; the manager has arrived in England, and it is proposed to call a meeting of shareholders to receive his report. The commissioner in charge has posted his report, which is due here in three weeks time. The discoveries recently made are of great value. At 100 fms. west of the present workings on the same lode a trial has opened up a course of rich ore 9 ft. wide, worth 90 ozs. of silver per ton of ore. Argentine, 6 to 6½; large quantities of ore are being raised from the Piqué Mine, sufficient to keep the stamps supplied. Cross-cuts are being driven at the Captain section to intersect a large lode known to be rich in gold. Several of the company's other mines are being opened up, and the supply of ore for all practical purposes would appear to be inexhaustible. The stamps are working well, and the results are expected in the course of ten days.

The market for Hydraulic or Gold Washing shares has been tolerably active. In the early part of the week Sweetland Creek shares were pressed for sale, and receded to as low as 15s.; at the close, however, a firmer tone was manifested, and many transactions recorded. Birdseye Creek were also at one time nominally quoted lower, but no business was done, and the telegram announcing the clean-up would seem to show that no reason exists for a reduction in the value of the shares. Blue Tent are quiet, and close firm at quotations. Cedar Creek in request, the late telegram giving more confidence in the ultimate future of the concern.

Birdseye Creek, 1 to 1¼; a telegram from the superintendent received during the week announces the result of the washing for May. Gross returns, $8000; remittance, $2000. As will be seen from the letter in another column, the greater part of this run was on side dirt, the blast over the main channel having failed in the firing. The return may, therefore, be considered satisfactory. Cedar Creek, ½ to ¾; Colonel Ludlum announces in a telegram to hand this week that the total product for last month amounted to $11,000, the running expenses being $4500. In this return the result of washing on the Yankee and Badger claims has not been included, and as these two claims are amongst the best the company have at present at work the return is considered a very good one. Sweetland Creek, ⅝ to ¾; we have ascertained that no further news has been received from the mine since the report was issued, except that M'Lean was continuing the washing as heretofore. We have received numerous letters on the subject of this company. Many of the points discussed will doubtless be dealt with at the forthcoming annual meeting. Blue Tent, 3 to 3¼; the last information received is to the effect that water is steadily flowing through the canal from head to mines. As the manager has been only waiting for this to wash in more energetic manner, there is no doubt but that he is now in full swing. It will be remembered that a few weeks back we mentioned that the gravel in the North Yuba claim had paid at the rate of 72 cents per inch of water for 24 hours. This is reckoned very rich in the States, and should the manager be able to wash steadily on this claim the returns are considered likely, with ample water, to be large and continuous.

With regard to British mines, the quotations show but little variation. Van, 36 to 38; the drivage by the side of the lode at the 105 is being continued. The lode will be taken down in the early part of next week, but so far as seen the driving is alongside a splendid course of ore. The driving of the 75 west has been resumed upon a lode worth 50*l.* per cubic fathom for the part carried. No alteration elsewhere. Van Consols, 1⅞ to 2⅛; the completion of the drawing-shaft is being hastened on as much as possible. Glyn, 3 to 3¼; it is reported that the ground in the shaft continues hard for sinking, and that very valuable stoping ground for lead is being opened up in the 15. Great West Van, 10s. 6d. to 12s. 6d.; the cross-cuts to meet the north and south lodes at the 46 are being pushed on with vigour. An improvement in the 34 driving south has taken place during this week, which may have an important bearing on the future prospects of the mine. Cwm Dwyfor, 1 to 1¼ the lode is improving in the shaft below the 10. Grogwinion, 6 to 7; the agent's monthly report states that all is going on as well as usual. Wye Valley, 5¼ to 7½; the 22 has had a further improvement and is looking promising. West Wye Valley, 3¾ to 4¼; the 26 is reported to be yielding splendid ore. St. Harmon, 3½ to 4; the works are going on rapidly, and the bottom level is being driven east and west. The first general meeting is to be held on the mine at the end of the month.

Pennant, 5 to 5½; the cross-cut from the 80 is reported to have struck the lode, and to be of excellent character, promising a large yield. Pennerley, 2 to 2¼; the agent's report and statement of accounts have been issued in anticipation of the forthcoming annual meeting. From the former it appears that the mine has not only considerably improved and improving, but that the agent is in a better position to deal with the produce. The accounts show a loss of about 2200*l.* for the year, but it is pointed out that only seven tons of ore were made instead of twelve during the period embraced by the accounts, owing to the practice adopted up to the last meeting of selling ore in advance of its production. Now no ore is supplied until it is ready for delivery; and, as the sales are again getting into regular monthly order, it is hoped profits will accrue from this time.

Pateley Bridge, 3¾ to 4¼; Lumb vein, in the south cross-cut, in the 10, is worth 13*l.* per fathom for lead ore. Fielding's vein, going north-west, in the east cross-cut at the 20, is worth 18*l.* per fathom for lead ore. In the roof over this drivage the vein is worth 17*l.* per fathom for lead ore; the end going south-east is worth 12*l.* per fathom for lead ore. Sun vein, in the east drivage from the bottom of shaft under Gillfield level, is steadily improving, now worth from 15*l.* to 16*l.* per fathom for lead ore. In the stope over the level, the vein is worth 18*l.* per fathom for lead ore. Other parts unchanged. West Pateley Bridge, 5 to 5¼; in another column will particulars of the general meeting held last week are given. The attention is directed by those concerned to the promising character of the undertaking, both from the large returns which some of the adjoining mines have made, and from the very favourable indications presented at this mine.

Cathedral (new issue), par to ¼ prem.; the ground in the shaft is under for progress, and the lode opening out again. Penstruthal, 17s. to 18s.; the bottom levels and shaft show now unmistakable signs of a copper lode of importance, and remembering the celebrated copper lodes formerly worked in this district, great attention will be attracted to this mine.

Subjoined are the closing quotations—

Anderston, 1 to 1½; Carn Brea, 36½ to 37½; Devon Great Consols, 3 to 3¼; Dolcoath, 35½ to 36½; East Caradon, 1 to 1½; East Van, 9 to 9⅛; Glyn, 2⅞ to 3; Great West Van, 3¾ to 3⅝; Great Luxey, 17 to 17½; Hingston Down Gold, ⅝ to ¾; Marke Valley, 1⅞ to 2⅛; Parys Mountain, 17s. to 19s.; Pateley Bridge, 3½ to 4; Pennerley, 2 to 2¼; Penstruthal, 16s. to 18s.; Roman Gravels, 15s.; Tankerville, 10¼ to 10⅜; Tincroft, 17½ to 18½; Van, 36 to 38; Van Consols, 1¾ to 2; West Assheton, 1⅝ to 1¾; West Basset, 4½ to 5; West Chiverton, 15⅞ to 16⅛; West Tankerville, 1⅝ to 1⅞; West Pateley Bridge, 5 to 5¼; West Wheal Grenville, 1 to 1⅛; Almada and Tirito, ⅝ to ⅝; Argentine, 6 to 6⅛; Birdseye Creek, 1 to 1¼; Blue Tent, 3 to 3¼; Cape Copper, 42 to 44; Cedar Creek, ½ to ¾; Chontales, ¼ to ½; Colorado Terrible, ¾ to 1¼; Condes of Chili, 6 to 6½; Don Pedro, 1-16 to 3 16; Eberhardt and Aurora, 8⅞ to 9⅛; Emma, ¾ to 1; Exchequer, 1¾ to 2; I.X.L., 1 to 1¼; Flagstaff, 1⅞ to 2⅛; Frontino and Bolivia, 2⅛ to 2⅜; Javali, ¼ to ⅜; New Quebrada, 3¾ to 4; Pestarena, ¼ to ½; Richmond Consolidated, 8½ to 8⅝; St. John del Rey, 350 to 370; San Pedro, 1½ to 1¾; Sierra Buttes, 1 to 1¼; South Aurora, ⅜ to ½; Sweetland Creek, ⅝ to ⅞; Tecoma, ½ to ¾; United Mexican, 2 to 2½; Oregon Preference, 4 to 4¼.

COLLIERIES.—During the past week but few transactions have taken place in colliery shares, and no change in prices is to be recorded. These, however, show a firmer tendency in consequence of the feeling which is gaining ground that the iron and coal trades have both reached their worst. There is not much demand for the lower classes of iron, but there is plenty of business doing in the best brands, while higher prices and a good demand for steam coal is noticeable throughout the country; indeed, the exports are slowly increasing, and a revival in trade, though not actually present, seems by no means far distant. This should be recognised by the public, whose experiences of foreign loans, &c., must necessarily turn its attention to our home industries, among which there are few better investments to be found than shares in good coal mines. Where the work is being carried on in an economical and extensive manner collieries are now making fair profits, and when trade revives will be among the few things which will command the favour of the investing public. Cardiff and Swansea shares close at 2¼ to 2¾. We understand that the Pentre Colliery is making capital profits, turning out about 1000 tons per day. The Swansea Works, however, are not nearly so successful, the coal being soft, and the prices in that neighbourhood very low.

Bilson and Crump close at 8 to 8½, firm; this colliery is turning out about 400 tons per day, and is making a fair profit. It is said the board has purchased the Fox Bridge Colliery, which will be offered to the shareholders so soon as the title can be perfected. This colliery is raising about 2500 tons per week, and it is believed the two properties will together turn out a profit of about 30,000*l.* per annum. Aliaani, 5 to 5¼; the latest news is very satisfactory. Coal was struck last Thursday night in the Lily pit, and we hope to be able to report the thickness of the seam and its quality next week. At the "Old Firm" pits it is expected that a seam of canned tops the Hollin coal. Should this prove correct an advance in the shares may be looked for. Llay Halls, 9 to 9¼. Chapel House shares are steady, at 3¼ to 3¾.

Notice of a reduction of 15 per cent. in the wages of the colliers in the Lancashire district has been given, and it is anticipated will be submitted to quietly. The reduction is to date from the 6th prox. This is a matter of some importance at the Chapel House, where the profits are already of a most satisfactory character, still being over 2s. per ton. The new pit is down 310 yards, and it is anticipated another seam of coal will be cut shortly. Everything is going on satisfactorily. In the South Yorkshire district the colliers have returned to work at a reduction of 12½ per cent. The Northern district will now, no doubt, try for a reduction, and the miners in the South having given will, no doubt, obtain it without trouble. Thorp's Gawber and New Shariston shares close about the same as last week. In the Birmingham district prices remain as follows:—Cannock and Huntington, ½ prem.; Perry, 1 prem; Sandwell Park, 27; New Sandwell, 17 prem.; Spon Lane, ½ dis.; and West Cannock new shares, 2 prem.

HALIFAX.—June 15: The following quotations are from Mr. J. H. Thackrah's list:—Halifax and Huddersfield Union Bank, 29¾; Halifax Joint-Stock Bank, 29⅝; Halifax Commercial Bank, 25½; London and Yorkshire Bank, 27s. 3d.; John Crossley's, 12⅜; Whitworth and Co., 8; Elland Gas, 20; Rastrick Gas, 18½; Bradford Brick and Tile, A, 21: ditto, B, 7; Charlestown Brick and Tile, 10; Ripponden Commercial, 11; Hebden Bridge Cotton, 10; Yorkshire Boiler Insurance Company, 22s. 6d.; Norton Brothers, 8.

At Swansea Ticketing, on Tuesday, 1905 tons of copper ore were sold, realising 21,897*l.* 0s. 6d. The particulars of the sale were—Average standard for 9 per cent. produce, 97*l.* 11s. 3d.; average produce, 17¼; average price per ton, 13*l.* 1s. 4d.; quantity of fine copper, 328 tons 14½ cwts. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
May 23	1412	£ 97 6 6	22 11-16	£17 6 5	15s. 3d.	£76 5 0
June 13	1905	97 11 3	17¼	13 1 4	15 1	75 15 0

Compared with the last sale, the advance has been in the standard 5s., and in the price per ton of ore about 10d. The Cape ores gave a produce of 30 1-16, and sold at 22*l.* 19s. 2d. per ton, being at the rate of 15s. 3d. per unit, or a standard about 5s. below that of the whole sale. On June 27 there will be offered for sale 1031 tons, from the Cape, Berehaven, Australian, and Cronebane Mines.

The TALYBONT SILVER LEAD MINING COMPANY has been formed with a capital of 30,000*l.*, in shares of 1*l.* each, to acquire the mine, of the same name, about seven miles from Aberystwyth; it is only, as will be seen from the prospectus in another column, three miles from the railway station of Llanfihangel, on the Cambrian Railway; the River Lerry runs past the washing-floors, and affords ample water power the whole year round. Miners are abundant in the village. Therefore the company possess local advantages rarely equalled and very conducive to the success of a mining company; but more important than such considerations is the fact that this property contains several ascertained and proved most valuable lodes of silver lead. Capt. Glanville, in concluding a detailed report on the mine, states that the property could not be better situated for economical working. They have ample water power at all seasons for driving their machinery—a most valuable consideration. Since the crusher and jiggers have been supplied with new sieves and classifiers, and the other alterations and improvements made, machinery is working perfectly. They are now dressing another parcel of ore for market. From the appearance of the lodes at their present shallow depth, and their being in virgin ground, he considers their present richness to be merely a reflection of the vast deposit of metal they will shortly meet with.

The allotment letters of the Public Supply Association were posted on Wednesday.

MINERAL STATISTICS.—It is gratifying to learn that Mr. R. Hunt is very far advanced with his Statistics for 1875, so that their issue within a very brief period may be anticipated. Mr. Hunt is at present hard at work in the Black Country, and has recently been over all the mining districts between Whitehaven on the one side and Newcastle on the other, so that it is evident that he is using every effort to secure the same degree of accuracy in the forthcoming issue as in those which have already been published.

FRONTINO AND BOLIVIA.—The general meeting of shareholders was held on Tuesday, at the Cannon-street Hotel, when a dividend of 1s. per share, equal to 5 per cent. per annum on the paid-up capital of the company, was declared. When it is remembered that some two years ago this company was in great straits, and the property mortgaged for funds to carry on the mine, it must be highly satisfactory to the shareholders to know they have so rapidly changed into a profitable concern, as they will find by the published accounts to Dec. 31 that the profits for the past year amount to about 11,000*l.*, and but for the heavy debts paid off the shareholders would have had a larger dividend. The success of the company is due to the board of directors, who have so successfully fought every difficulty, and the great experience brought to bear on the company's property by the manager in South America (Mr. Robert B. White), to whom too much praise cannot be given.

TANYRALLT (Cardiganshire).—This mine continues to open out well, another 10 tons having been sold this month, making an average of 10 tons per month for the year, and there is a gradually increasing reserve of ore on the floors, so that even if the mine were to stop they would continue the sales for two or three months. In driving south in the 40 there has been a new shoot of ore discovered worth about 15 cwts. per fathom. The ore in the north end produces 3½ tons per fathom.

SOUTH CROFTY.—We are informed that the statement recently circulated respecting the engineership of this mine is incorrect. Whatever the consumption of coal may be Mr. Michell, engineer, has nothing to do with it, and his name ought not to have been brought forward, as he is not the engineer of the mine.

SIERRA BUTTES (Gold).—Sierra Buttes Mine: Receipts, $32,770; total California expenses, including cost of mining and milling, $20,990.—Plumas Eureka Mine: Receipts, $36,335; total California expenses, including cost of mining and milling, $13,920; tons of sulphurets saved, 38; tons of sulphurets amalgamated, 48; yield of sulphurets per ton, $75.

Notices to Correspondents.

In the summary of Australian mining intelligence, given in the Supplement to last week's Journal, reference was made to a mining undertaking in South Australia under the heading of "Yorke Peninsula," which should, however, have been "Yelta." The Yorke Peninsula Mining Company, a report from which also appeared in the Journal of that date, we were glad to see, seemed to show that operations were progressing at their Kurilla Mine (that being the only one of their properties that they are as yet developing), with very favourable prospects of its becoming a largely productive property.

COST OF TIN SMELTING.—"H. J." (Geelong).—The smelters of tin make a very great secret of the cost of their operations, so that it is almost impossible to give the exact cost of smelting a ton of tin. It is known, however, to be very insignificant compared with the value of the product, and the first cost of the furnaces and plant is small.

HYDRAULIC MINING.—A friend of mine in South Africa desires to obtain hydraulic hoses and nozzles to stand a pressure of water from an elevation of 150 to 200 ft. to work alluvial deposits situated at the outside—say, 100 yards from the water race. Will some correspondents kindly supply, through the Journal, particulars as to strength of hose required, cost of hose, nozzles, and so on? Will they also state whether it is necessary to have a greater fall than 150 ft.? It should be mentioned that great force will be required in consequence of large boulders in the wash; the fall for tailings is good, and over a waterfall 300 ft. high.—S. B. G.

SLATE TRADE.—Will some reader kindly oblige by forwarding (with any other particulars they may feel disposed) the comparative prices for several years back, showing the upward progress of this prosperous trade?—S. F.

TIN SMELTING.—Can any correspondent give me, through the Journal, any information as to what it costs in England to smelt a ton of (say) 65 per cent. tin ore? I am inclined to think at the present price for tin the smelting of that metal in Australia cannot be remunerative, but have same difficulty in obtaining the particulars of costs.

COPPER SMELTING.—I am seeking a work on copper smelting, more especially treating of blast furnaces adapted to that branch of metallurgy, and shall be glad if any correspondent will refer me to the latest and most reliable book on the subject.—W.

COAL-CUTTING MACHINERY.—The address of the manufacturers of the Winstanley and Barker Coal-Cutting Machine is required for a firm wishing to communicate with them.—D. M.: *Musselburgh, June* 14.

Received,—"South Australia:" The proceedings referred to a local company, no the one successfully carried on under London management—"Mentor" (Lincoln): We could not publish the statement; write to some paper devoted to such matters—"F. A. P." (Darwin, California): We have not received the particulars—"T. E." (Coatbridge)—"W. R." (Leeds)—"Shareholder" (St. Albans)—"Constant Reader"—"A Shareholder in Rossa Grande" (Minas Geraes)—"Miner" (Aberystwith): Too personal for publication.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JUNE 17, 1876.

FRENCH IMPORT DUTIES ON IRON.

The Memorandum of the British Iron Trade Association addressed to the Foreign Secretary, the Earl of DERBY, by its committee appointed to consider the duties on iron imported into France is a highly interesting one, and furnishes a vast number of valuable facts which cannot be too carefully studied by all connected with the iron trade, whether in France or England. It is explained that when the Treaty of Commerce of 1860 was negociated there was no association representing the iron trade, as Chambers of Commerce represented various manufacturing districts, and that consequently the French Tariff of 1860 on iron, unlike that on many other articles, was conceived neither in the interest of French commerce nor in that of the French Exchequer. The British Iron Trade Association has undertaken to demonstrate this proposition, and at the same time to prove that while the French are not benefited by the existence of the present state of affairs the British ironmaster is shut out from a market in which he would otherwise do a large business. The French duty is not *ad valorem*, but one of so many francs per ton, according to the description of iron, and changing this into percentages it is shown that under the treaty about 65 per cent. on free-on-board prices was levied on pig-iron, subsequently reduced to 55 per cent., and in 1864 to 28 per cent.; whilst rails pay 38 per cent.; Staffordshire marked bars, 29 per cent.; and plates, 35 per cent. The duty on ordinary castings were fixed at about 30 per cent, and on cheap wrought-iron wares, such as wrought-iron tubes, in the same or a still higher proportion. Now, it certainly appears unreasonable that the France should demand nearly as high a percentage upon a useful article like iron as the English take upon the cheap wines of France, which are not to the taste of most Englishmen and can be quite as well dispensed with.

In reminding the Foreign Secretary that in order to assist domestic production it was stipulated by France that this country should not, during the existence of the treaty, impose any export duty on coal, the committee draw attention to what is an imaginary rather than a real ground of complaint, since even Mr. LOWE would have shrunk from suggesting an export duty on coal at all, and much less upon coal exports to France only, whilst other countries were exempt. Again, when the bugbear of the probable exhaustion of our coal fields was raised, and Mr. GLADSTONE proposed as a remedy to pay off the National Debt, he did not suggest a tax on coal, and many of his colleagues, anticipating the possibility of such a tax, were loud in their declarations of its inadmissibility. The reason is obvious. Whatever secures remunerative employment for the working classes of a nation promotes the welfare and happiness of the entire population, and it is impossible to pay workmen well unless the raw material which they use is relatively cheap, and this fact is nowhere better recognised than among the working men of Great Britain, who gave substantial evidence of this by almost entirely withholding support from colliers when on strike, "because everybody wants coals cheap," although they freely subscribe to keep men on strike if they do not themselves require the product of their labour. The French are particularly solicitous for the welfare of the working classes, and hence it is found that a patent for an invention in France becomes practically invalid unless the manufacture of that which is protected is carried on in France, whilst it is equally in the interest of the working man—to secure him an abundance of remunerative employment—that French legislators so much approve the system of "franchise temporaire," or "acquits à caution," which permits the entry free of duty of materials to be worked up for export.

The figures furnished by the committee are really startling. It appears that during the five years preceding the signing of the treaty the exports of pig-iron to France averaged 74,247 tons per annum; in the first five years of the treaty being in force the average increased to 138,116, but in the five years ending 1870 it declined again to 104,687 tons per annum, and in the similar period ending 1875 it returned to nearly the normal quantity, being but 82,400 tons per annum. This is the more remarkable as the exports of British pigs "to all countries" increased in the 10 years ending 1875 by about 270 per cent., and at the same time shows how utterly incompetent the free-traders who represented England in the negociations for the 1860 treaty were to estimate the probable effect of a reduced import duty upon iron into France. With regard to the trade in bar-iron, rails, chairs, bolt-rods, hoops, angles, wire, sheets, and plates they were still more at fault. Previous to 1860 the export of bar-iron to France averaged 10,063 tons; since 1870 it has averaged 83 tons; similarly, the exports of rails, bars, &c., have fallen from 18,240 tons to 23 tons, of sheets and plates from 4956 tons to to 2321 tons per annum, and so on with other descriptions; but it would be well to ask whether much of this decline is not due rather to the constantly decreasing quality of the British iron sent into the market than to the change of duty. If it be so the doctrines of COBDEN and the Manchester school of free-traders generally might still be worthy of retention, but the papers and discussions which have come before the Iron and Steel Institute certainly point in the opposite direction, and demonstrate that free trade brings about a low priced and debased quality of product, and that the temporary prosperity resulting from opening an enlarged market by its aid results in the speedy loss of that market altogether.

It is remarked that during the 15 years the treaty has been in force not only has France become almost independent of British iron, but, as the committee of the British Iron Trade Association state, French manufacturers have become considerable exporters to neutral markets. Again, the committee mentions that the competition of continental countries with each other and with Great Britain for the trade of the world in all its branches is daily becoming more intense—Germany, Belgium, and even Switzerland are becoming from year to year more formidable rivals to France—and it may be that the movement which is gaining strength in that country in favour of the removal of all duties on raw produce may justify the Government in abolishing the duty at any rate on pig-iron. The committee consider, and are beyond doubt correct in doing so, that this abolition would produce an increased development both of the internal and external trade in French castings, owing to the admirable skill of the French ironfounders, inasmuch as under the system of "acquits à caution" French ironfounders have competed successfully with the great Scotch and Cleveland establishments for the supply of cast-iron pipes to Germany. But if, the committee suggest, it should not be deemed expedient to give up at once the revenue now derived from the duty there can, we think, be little doubt that a rate of (say) 5 frs. (the Belgian duty), still equal to nearly 10 per cent. on the present average price of Scotch and Middlesborough pig-iron—the system of "acquits à caution" being at the same time abolished—would almost immediately yield a revenue as large as that now obtained at the higher duty. It will be obvious that even a 10 per cent. duty with the abolition of "acquits à caution" would practically restore to the British the control of the market, so that whatever can be done by British ironmasters to bring about that change is entitled to the utmost support.

The duty proposed by the British Iron Trade Association would give 16s. or 20 frs. per ton, or per 1000 kilos on Staffordshire bars; 12s. or 15 frs. on iron rails; 17s. or 21 frs. on Bessemer steel; 18s. 6d. or 23 frs. on ship and boiler plates; 24s. or 30 frs. on sheets; 7s. or 8 frs. on chairs; and 10s. 6d. or 13 frs. on pipes. The Committee request that the substance of their memorandum may be put forward in the course of the approaching negociations with France with the view to obtain such a modification of the present duties as may promote the trade in iron between the two countries, and although it is unreasonable to expect that Frenchmen, and especially French economists, will accept the statements of the Association as entirely unanswerable, it may be hoped that the memorandum will at least have the effect of making more extensively known the strong points of the rivals of Great Britain, and thus enabling the ironmasters of this country to compete more successfully with them in the markets of the world.

THE IRON AND COAL TRADES.

A careful reflection upon the state of the iron and coal industries as they present themselves at this moment leads us to believe that, to say the least, the present condition and the early future prospects are less unpromising than they have been for some few weeks past. We think we see the shadow of the fringe of the proverbial silver lining in the overhanging cloud. For the first time during several months it has been possible to announce the exportation of an increased quantity of iron. The returns for May show that our total exports of iron and steel in that month were 233,056 tons, compared with 218,863 tons in May last year, though a decrease of more than 14,000 tons upon May, 1874. The increase, therefore, of May this year over May, 1875, is 14,193 tons. It is, however, a very unsatisfactory truth that, notwithstanding we have exported thus largely by comparison, we have received for the product less by 242,202*l.* than we received for the smaller quantity exported in May last year. The values are instructive. Our total exports of iron and steel in May this year realised 2,082,931*l.*; in 1875, 2,325,133*l.*; and in 1874, 3,147,571*l.* Doubtless the values, as compared with the quantities, show depreciation as to price, but the growth of quantities reveals more business. The reports from the industrial centres as to nearly all the industries are at present scarcely better than they were a few weeks ago. Advantage was taken of the Whitsun week largely to close mills and workshops the whole seven days—the instances being the exception where work was begun on the Wednesday. The stocks of pig-iron in Cleveland have increased upon the month by 4000 tons, but the make has increased by 10,000 tons. Thus we have larger sales during May than in April by 6000 tons. Against this is to be set the fact that the output of pig-iron in Scotland is decreasing—the 116 furnaces now in blast in Scotland being a decrease upon May last year of seven; yet Scotch stocks are increasing. Part of this reduction in Scotland is due to the cheaper rate at which the iron can be made in Cleveland, since the users in the northern kingdom are still importing rather largely of Cleveland iron. What we have written is not wholly discouraging. It must be read, we are happy to say, in connection with three other far from unsatisfactory features.—1. There are men who are at this moment buying Cleveland pig-iron as an investment. They are stacking it in the belief that it will pay them to do so at current prices, and wait till a revival in trade enables them to sell it at a good profit.—2. The altogether less cheerless news from the East, accompanied with Mr. DISRAELI's explanation the other night in the House of Commons, has helped considerably to remove from the minds of not a few traders a very gloomy apprehension which was just beginning to appear.—3. There are to-day more enquiries in the market from joint-stock companies and corporations for finished and foundry iron, together with coal, than have appeared for months past. This last fact would seem to indicate that in the minds of not a few prices have certainly reached their lowest. For ourselves we cannot say that we wholly share in this belief. We think that the point at which quotations will begin to re-ascend has not yet been touched in all cases. The direction in colliers' wages is still downward. So long as this lasts men of prolonged experience in the purchasing market will decline, many of them, to enter with freedom. The appearances for the moment are less gloomy than they were, but foreign competition continues to be so severe that an expectation that the shadow of the fringe of the silver lining will be quickly followed by the peeping out of a streak of the lining itself must not be enthusiastically entertained. Nevertheless, it is cause for thankfulness that matters are no worse. Dire suffering there is nowhere, and pauperism is on the decline.

RAILWAY IRON EXPORTS.

Our exports of railway iron do not present very encouraging or brilliant results. They have almost entirely collapsed as regards the United States, which only took 2 tons from us in May, as compared with 1283 tons in May, 1875, and 10,097 tons in May, 1874; but a considerable—or at any rate, an increased—demand prevailed in May on Italian and Indian account, and the month resulted in an aggregate export of 50,299 tons, as compared with 49 293 tons in May, 1875, and 97,587 tons in May, 1874. The aggregate shipments for the five months ending May 31 this year were 144,723 tons, against 201,219 tons in the corresponding period of 1875, and 335,093 tons in the corresponding period of 1874. The exports have thus experienced a rather considerable further decline this year, but at the same time it is satisfactory to note that the decline was arrested in May. The exports of our rails to the United States have been almost annihilated this year, having fallen to May 31 to 96 tons, as compared with 13 888 tons in the corresponding period of 1875, and 52,445 tons in the corresponding period of 1874. To British America we sent to May 31 this year 20,593 tons of rails, as compared with 36,380 tons in the corresponding period of 1875; to British India, 20,509 tons, against 14,464 tons; and to Australia, 12,611 tons, against 36,299 tons. Some improvement has thus taken place in the Indian demand, but a large decline has occurred in the exports to Canada and Australasia. The reduction which has occurred in the price of rails this year—or rather during the last two years—upon the English market has failed to restore to us the American demand. On the contrary, it has shrivelled up to such an extent that it may almost be said to have ceased to exist. The prosecution of the Indian State lines appears to have become rather more vigorous of late, and it has, at any rate, involved the consumption of a by no means unimportant quantity of railway *matériel*. The Canadian demand has become greatly curtailed, and the Australian demand has given out to rather an alarming extent. It would appear that for the time the Australians have been rather over doing it in the matter of railways, and they have accordingly been largely curtailing their purchases of rails. Nevertheless, the Australias constitute a group of colonies of such vast extent and importance that they will in all probability take considerable quantities of rails from us in future years. As regards Canada, there are unfortunately a good many Canadian railways in a muddle either with their bonds or their shares; and so long as this is the case, Canadian railway enterprise will be, of course, viewed with suspicion. Perhaps it is better that it should be so, as it is clearly more desirable that we should send railway iron to Canada sparingly, than that we should send it to that quarter lavishly, and then not receive payment for it.

The main question suggested by the figures which we have been summarising is—"Does the decline which has been taking place for many months past in the price of British rails begin to tell upon the external demand for them?" This is a very interesting and important question; indeed, the whole immediate future of the British iron trade may be said to depend upon the answer. We cannot give the answer at present with any precision, but we fancy that there is little doubt that the Anglo-Indian Government is taking advantage of the greater cheapness of rails, and is laying them more freely in consequence. The Anglo-Indian authorities exhibited a great reluctance to proceed with their contemplated and authorised State lines when rails attained the severe prices at which they were quoted three or four years since. Now that we find the same authorities vigorously completing lines which they formerly carried on in only a *festina lente* fashion, we can but surmise that they are profiting, and very rightly too, from current circumstances. To use an old but forcible and vigorous illustration, they are making hay while the sun shines. Is it too much to assume that similar hay-making will be witnessed on the part of sundry colonies and foreign countries? We incline to think that it is not.

THE RUSSIAN IRON TRADE.—The English iron trade is threatened with exclusion from Russian markets, the Russian Government having determined to accede to the requests of the manufacturers in that country, and to place such impositions upon the importation of rails as will render it impossible for English makers to enter into competition with the Russian rail-makers. The following are the measures which have received the sanction of the Government, and which will be made public in the course of a day or two:—1. That in future a duty shall be imposed upon all imported rails.—2. That all concessions to Russian railway companies shall contain a clause compelling them to use not less than one-half rails of Russian manufacture.—3. To allow a premium to rail manufacturers.—4. To give them orders for work extending over four or five years.—5. To give them a special cheap rate of transit not only for their manufactured rails, but also for their ores, pig-iron, fuel, and, in fact, all the materials of the trade. It will be noticed that unless vigorous action be taken by those who are interested in the English trade these measures are more than sufficient to effect their purpose. Labour in Russia is exceedingly cheap; new mines of the richest hematite and magnetic ores are being discovered and opened daily, and a great development is being made in mines already opened. Thus in every respect, excepting in the abundance of coal, Russia will have the advantage of us. The engineers and tool makers have also taken up the matter, and there is no doubt that concessions will also be made to them very shortly.

COAL AND IRON IN THE UNITED STATES.—Sales of English, Scotch, and American cannel coal at Boston have been confined to small lots. Cumberland (Maryland) coal has ruled low at various shipping ports; considerable sales have been made. Penn and Westmoreland coal has been selling at $4·10 per ton, delivered at Philadelphia. Anthracite coal has been dull at Boston, and both shippers and retailers have reported a light business. Retail sales of anthracite have been made at Boston at $7 to $7·50 per ton. The deliveries of coal thus far this year by the Lehigh Valley Railroad Company have been 1,470,335 tons, as compared with 813,569 tons in the corresponding period of 1875. American rails have been quoted at the works at $40 to $45 per ton currency. Old rails have made $22½ to $25 per ton currency; wrought scrap has brought $28 to $30 per ton currency; Coltness pig has been quoted at New York at $30 to $31 per ton currency.

CHANNEL TUNNEL.—Mr. W. Firth, of Leeds writes:—The actual length of the subaqueous portion of the projected tunnel is 22 miles, as there is a land length on each side of the tunnel of about four miles, and in the ventilation of these there is no difficulty. I assume that the engineers will finally adopt the double-tunnel arrangement, and in that case I do not think it will be difficult to establish a tolerably good ventilation throughout 22 miles of under-sea tunnelling, even if the present coke-burning locomotive remains unimproved. But there is the expectation that a material improvement will be effected therein, and that a much less volume of gaseous product will be permitted to escape from the engine, and this would modify the apprehensions which you have so well explained. There is now going on a remarkable developement of the application of compressed air to underground haulage in our mines over long distances; and I have not the least doubt that if the use of the common locomotive should be inadmissible, there will be a perfectly effective system of haulage devised by the use of the immense power of air under high compression. The only real difficulty which presents itself to my mind is whether the lower chalk in the line of soundings from St. Margaret's Cliff to Stangate is true and regular in its formation, with a density and freedom from fissures which will prevent the passage of sea-water into the tunnelling workings. I have had some experience in mining under the chalk, and I am inclined to think that in the projected tunnel there will not be more water than by mechanical arrangements can be easily dealt with. The difficulty as to raising the capital has apparently vanished, for it is well understood that the French capitalists have manifested their entire confidence in both the practicability and the commercial value of the enterprise; and after their wonderful achievement with the Suez Canal in the face of much discouragement, and now that there are united in this project the most famous engineers of the two countries, we may reasonably expect that the great work will be accomplished, to the enduring honour and advantage of both countries.

COLLIERY ACCIDENTS.—In the House of Commons, on Tuesday, in answer to questions from Mr. Macdonald, Mr. Cross said that an accident occurred at the Moss Pit Mine, near Wigan, on Saturday, April 1, and the manager's report of it reached the Mines Inspector on the following day. The Mines Inspector visited the mine on Tuesday, the 14th, having had an engagement which prevented him doing so on the Monday. With the Assistant Inspector he then examined the mine, and they both then agreed that the ventilation was inadequate, and that gas was visible at the edge of a gob near which a shot had been fired. One man was injured, who died on the 11th, and an inquest was held, at which the Inspector attended when on carefully cross-examining the witnesses he failed to elicit any evidence as to the gas being present at the time of the accident. The jury returned a verdict of Manslaughter against the person who discharged the shot. Previous to the enquiry the Inspector looked on the case as one that would furnish good cause for a prosecution, but the evidence given before the Coroner convinced him that a conviction could not be obtained. Another accident occurred at the Bryn Hall Colliery, Wigan, on May 2. The manager's report reached the Inspector on the 4th. It was then stated that six men had been slightly injured, and the Inspector visited the mine on Monday, the 8th. On the 9th one of the injured men died, and an inquest was opened, which was adjourned. At the adjourned enquiry the evidence went to show that the mine was well ventilated and clear of gas, and the verdict of the jury was that neither the foreman nor the workmen were to blame, but they recommended greater precaution in working the mine in future. The Inspector said the result of his inspection of the mine was satisfactory, and he found no gas, but that, unfortunately, through a mistaken estimate of the injuries sustained at the time, and the expectation that no enquiry would be necessary, the shot-hole from which the powder was stated to have been blown out was not left untouched, which would have afford

definite evidence of the character of the accident. It was a question whether under the Act the mineowner was required to retain the mine in the position in which it was left by the accident until the Inspector had made his visit. The Inspector's opinion was that the circumstances did not seem to warrant the institution of proceedings in that case. It was, however, to be regretted that the Inspector did not put off any other engagement to go and inspect the mine immediately he heard of the accident, and the Home Office had given instructions to ensure that that course would be taken in future.

REPORT FROM CORNWALL.

June 15.—This has not by any means been a mining week, for its chief event in the county has been the holding of the annual exhibition of the Royal Cornwall Agricultural Society at Liskeard, which proved a thorough success, and was very largely attended. The show of implements was the largest ever held in connection with the society, and included a number of steam-engines in work, among which there were several handy little verticals. There were no articles at the implement stands, however, which had any special bearing upon mining; on some previous occasions stone-breakers have been worked.

The feeling of the adventurers in South Wheal Frances with regard to the retirement of Mr. Penrose has been remarkably shown in the election of his successor to the pursership. Mr. Abbot, of Redruth, was chosen unanimously, really on the recommendation of Mr. Penrose, on the faith of which proxies in his favour were sent in to the extent of 1500 shares, while in the locality where Mr. Abbot is known the feeling was not less strong; this cannot but be gratifying to Mr. Penrose, though it does not lessen our regret at the circumstances under which he felt it due to himself to cause the vacancy.

Mr. Basset, of Tehidy, has given further proof of his interest in all matters connected with mining by paying an underground visit to a portion of his domains. East Pool was the mine selected for the purpose, and this Mr. Basset descended by the skip-road, with Mr. Bolden, his steward, Capt. Hosking his toller, and the agents, Capts. Maynard, Bishop, and Tippet. The party reached the bottom level, where Mr. Basset broke some ore, and thus became a mining effective. They were about 3½ hours underground, and on returning to the surface were received by Mr. R. R. Broad, the Chairman of the committee, the purser, and clerks and a large body of miners, who cheered most heartily this true friend of mines and miners.

Capt. White is doing good work at Wheal Peevor. He is opening out a capital mine, and is very sanguine that ere long it will prove profitable to the adventurers. There has been a very appreciable diminution in the loss on the four months' working as compared with the four months previous, and as the costs are also being reduced, should the price of tin go up 4*l.* or 5*l.* a ton it is not unlikely that at the next meeting the purser will be able to report that the mine has paid its way. The adventurers here have been fighting an uphill battle for a long time past. The difficulties and reverses they have met with since the concern was first started would have daunted many a stout heart, but they have such confidence in the future of the mine that they regularly and cheerfully pay their calls, in the sure and certain hope that it will yet turn up a trump.

Favourable accounts are forthcoming of South Roskear. An excellent improvement is reported in the bottom of Dunkin's shaft, where the lode at present is 5 ft. wide, with a fine course of tin, worth 60*l.* a fathom. Should this continue, South Roskear will give promise to become one of the best mines in the district. Captain Skewis, of Tavistock, is the managing agent, and all that practical experience and skill can do will be brought to bear to make the mine a success, and to realise the expectations of the shareholders. The shares, I understand, are mainly in the hands of Glasgow gentlemen, and I have heard surprise expressed that Cornishmen have so little interest in it. But the explanation of this is that the meetings are held in Glasgow, and that people in the county have no opportunity of knowing what is being down, and therefore it can hardly be wondered at that they at present hold aloof from the concern. But I have on many occasions heard the property spoken of in the highest terms by gentlemen residing in the districts to whose opinions a great deal of authority can safely be attached, and if the committee could see their way clear to holding meetings on the mine—say twice a year—as well as in Glasgow, it would soon be found that Cornishmen would take a real interest in the development of the property, and that the district and the adventurers would alike be benefited by it. An interesting fact in connection with South Roskear has been brought to my notice. A copy of a ticketing paper, which I have in my possession, dated July, 1777, close upon a 100 years ago, shows that at that time the mine, which then included Wheal Gerry and Wheal Chance, was the only mine which sold copper at the ticketing at Redruth. Whether this continued for any time I am unable to say, but South Roskear in past days has been remarkably rich for copper, and I hope that as a tin mine it will have an equally successful career.

The desire for experimenting in new inventions is extending, in a most gratifying manner throughout the two counties. Pneumatic stamps, boring machines, and Frue vannners are all being tried with the view to their introduction into our mines. The pneumatics stamps of Mr. Husband's, of Hayle, have been tried at Great Wheal Vor with very great success; Scholl's stamps have been and will still further be tested at Wheal Kitty, St. Agnes; the Barrow borer has been at work at Dolcoath for some little time, but has not proved the success that was generally expected from it. It is fair, however, to say that the patentees complain that it has not been fairly worked, and are now to carry on the trial under different conditions. The Frue vanner has been in operation at New Consols for some months, but here the proper facilities do not seem to have been afforded, and the vanner will be put up shortly at West Seton, where every facility will be given to prove its value. At West Maria Capt. Skewis is about to try the McKean boring machine, of which great things are said. The McKean drills are being largely used all over the world for mining, tunnelling, quarrying, and sub-marine boring, and they are said to surpass all others for their durability, compactness, and power. The advantages claimed for them are that they contain the fewest parts, act without shock upon any of the operating parts, work with a lower pressure, and may be worked with a higher pressure than any other rock-drill, and that they may be even run with safety to 1500 strokes per minute. There is no doubt that a machine of such power as this would be invaluable in our copper and tin mines, and as the matter seems now to be taken up so generally and earnestly throughout the two counties it would be well that the trial of the McKean drill at West Maria Mine should be witnessed by as many practical men as can make it convenient to be present on the occasion. In this connection Capt. Skewis has thrown out a very admirable suggestion, which I hope to see acted upon. It is that, that a permanent committee should be established, consisting of lords, mine managers, pursers, and all others interested in the matter, for the purpose of enquiring into and testing the value of every invention that may be introduced into the county calculated to be for the benefit of the mines, that all experiments should be made under their cognizance and authority, and at the joint expense of all who are associated with the movement, the mines bearing their proportion upon a basis that might easily be determined upon hereafter. It certainly seems to me that an arrangement of this kind would lead to much practical good, and that the superiority of these different inventions, as well as their applicability to Cornish mining, would speedily be determined.—*Western Daily Mercury.*

TRADE OF THE TYNE AND WEAR.

June 15.—There is little new to report in connection with the Coal Trade. A good business has been done lately in steam coal from the Northumberland coal field, and in Durham the demand for gas and various kinds of coal has been stimulated to a certain extent by the midland strike. The demand for coke has continued fair in the pig-iron trade. Although a bad paying one at present, it continues a great trade in Cleveland and Cumberland, which is almost exclusively supplied from the Durham coal field. The position of the Durham collieries continue, on the whole, bad, and as might be expected the owners are compelled to demand another serious reduction in the rate of wages. A conference took place at the Wood Memorial Hall, Newcastle, on Tuesday, between the delegates of the Coalowners' Association and the executive of the Miners' Union, the result was the owners came to the following resolution unanimously:

"This Association regrets that the Durham Miners' Union has met the owners intimation that the state of trade imperatively calls for a further reduction of wages by a refusal to entertain the question, and not by an expression of readiness to accept such reduction as the owners might show by facts and figures to be needful. Under these circumstances the owners feel that the only mode of averting the disastrous effect of a suspension of work is to offer to submit to open arbitration in the usual manner their claim for a reduction off the present wages of 15 per cent. on underground labour, and 10 per cent. on aboveground labour, to take effect from July 1. In the event of this proposal being accepted before the expiration of the notices, which the owners feel compelled to give next Saturday, then notices to be withdrawn."

At the request of the miners' delegates it was resolved to withhold the serving of the notices for a few days.

The great swing bridge on the Tyne, at Newcastle, was opened yesterday. Any ceremony in connection with the opening will be delayed until the bridge is swung to admit of the Europa passing up to Sir W. Armstrong's works at Elswick. It is the largest work of the kind in England. Total length between the abutments, 530 ft.; width—roadway, 22 ft; footpaths, 9 ft. The six spans of the bridge are divided as follow:—Two are in the centre to open by the swing, each giving 103 ft. clear water way; that on the north side is 99 ft. wide over the river, and that on the south side 71 ft.; another span on the Newcastle side for the quay extension is 30 ft., and on the south side for the proposed Gateshead quay is 21 ft. 6 in. The total length of the swing span is 278 ft. 6 in., and its weight 1500 tons. There is a clear headway above high-water mark under the swing of 16 ft. 10 in. The elevation of the valve house platforms is 28 ft., and to the top of the lantern 49 ft. To move this mighty structure only one hydraulic engine of 60-horse power will be employed, the steam-engine for pumping purposes being a third of that power.

There was a fair attendance at Middlesborough, on Tuesday, and, on the whole, a slightly better tone was manifested, consequent chiefly on the satisfactory returns of makers' stocks, and on account of a continuously fair enquiry for shipment. There can, however, be no elasticity about the trade while there are so many rail mills closed. One was added to the number—Messrs. Hopkins, Gilkes, and Co. (Limited)—on Saturday, at Middlesborough. The workmen at Bolckow, Vaughan, and Co. (Limited), whose notices expired, were continued in employment on a day to day engagement. An enquiry for small lots of finished iron is reported, which may help some works to keep going which are already employed, but which is not sufficient to justify works which have been unemployed re starting. They will generally have to remain until work on a larger scale comes in. Any demand which appears is almost entirely for light rails. There is scarcely any enquiry for bars, and plate makers report bussness in their department as getting dull. The prices of finished iron do not materially vary from late quotations. Rails are about 6*l.* for ordinary sections, and 6*l.* 5*s.* for light ditto; ship plates, 7*l.* 7*s.* 6*d.*; common bars, 6*l.* 7*s.* 6*d.*; puddled bars, 4*l.* 10*s.* In the pig-iron trade there is a very limited enquiry for grey forge, and prices are relatively lower as compared with the other numbers. Quotations are about—No. 1, 50*s.*; No. 3, 45*s.* 6*d.* to 46*s.*; No. 4 forge, 43*s.* 6*d.* to 44*s.* net cash. There are lower figures quoted by merchants in some cases, but makers generally do not feel inclined to sell below these rates. There is nothing fresh in the wages question. The prices of coal and coke remain low. There is but a small demand, especially for manufacturing coal, and prices are quoted, for unscreened, 4*s.* 6*d.* to 5*s.* 6*d.* at the pits. Coke, 10*s.* to 17*s.* ditto.

FATAL EXPLOSION OF GAS IN TURSDALE COLLIERY.—An adjourned inquest was held on Tuesday at the Thirstlington Hotel, West Cornforth, by Mr. Sattle, coroner, touching the death of Thomas Stewart, aged 27, a hewer, who died on May 27 from injuries he received in the above colliery on the 15th ult. The original inquest was opened on May 30, but was adjourned for the attendance of the deputy overman, Daniel Gillings, who was severely burnt, together with a boy named Robt. Jackson, by the same shot from which Stewart received his injuries. Mr. Bell, the Government Inspector of Mines, was present, and at the request of the Coroner examined the witnesses. The owners of Tursdale Colliery were represented by Mr. A. F. Steavenson, of Holywell, their manager, and Mr. Steavenson, solicitor, Darlington; whilst Mr. W. H. Oliver, of Durham, was present on behalf of the Durham Miners' Association. Thomas Stoddart, overman, stated that the deceased was working in the Harvey seam, and he (witness) was unaware that there was any gas in his board prior to the accident, but observed on the following day some indications of gas issuing through a crack which had been probably caused by the explosion. William Ramsay, manager of the colliery, gave similar evidence, and both witnesses described the deceased's board where the accident occurred, and what had been done there. Daniel Gillings, who had been deputy at the colliery, stated that previous to lighting the shot in Stewart's board he examined the place, but found no indications of gas, and observed no cracks in the roof. He fired the shot by means of a straw and touch paper, and he heard the report distinctly before he heard the explosion. He was close to the bottom of the board at the time with his back to the shot, and the deceased and the boy Jackson were close to him, and he could not say how the flame reached him. Witness was much burnt, and was insensible for some time afterwards. Witness had never met with gas in Stewart's board previously. William Shaw, a workman at the colliery, attended on the deceased Stewart, who was much burnt by the explosion, and with whom he was able to converse for some time before his death. Deceased never made any complaint against the pit, and he said there was no gas in the board prior to the shot being fired. Witness had been two years and a-half employed at the colliery, and never had any complaint to make himself. This was all the evidence, and the jury at once returned a verdict—"That deceased was accidentally burnt by an explosion of gas, and died from his injuries, and that no one was blameable in the matter."

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

June 15.—The South Staffordshire Iron Trade is certainly without improvement this week, even if its condition does not show in worse light than we were able to report a week ago. There are a few enquiries for foundry pigs, at prices ranging from 2*l.* 15*s.* to 3*l.* 10*s.* per ton, and some of the better qualities of finished iron command attention. Common iron, both pig and finished, is in very slack demand, and selling prices are weak and irregular. Unmarked bars are offering freely at 7*l.* per ton, and some few transactions have been reported at as low a rate as 6*l.* 15*s.*, other classes being in the usual proportion. There does not seem to be any prospect of an early increase in the number of blast-furnaces in operation, and scarcely half-work is being done at the mills and forges of the district.

The Coal Trade of the same district is in a somewhat anomalous condition. The lower qualities are being forced by competition to a price-standard which will not pay for raising, and numbers of small pits are being closed in consequence every week. On the other hand, the best forge coal of Dudley, and the best house coal of Cannock—notwithstanding the restricted demand for each—are both very firm in price, and an intimation has been given that an advance will probably take place in August. The near completion of the Sandwell Park, and other powerful new plants in the Thick coal part of the district, point to an early great increase in the local yield of that class of fuel, with what result upon the market remains to be seen.

The market for shares in coal and iron concerns continues low. The following were among to-day's quotations on the Birmingham Exchange:—Cannock and Huntington Colliery, 1 prem., sellers; Perry Colliery, 1 prem.; Sandwell Park Colliery (10*l.* paid), 27, sellers; Spon Lane Colliery, ½ dis., sellers; West Cannock Colliery (New), 1 to 2 prem.; Oldbury Carriage, 12, sellers; J. Bagnall and Sons, 5; Chillington Iron, 3¾; Darlaston Steel and Iron, 2¾; Pelsall Coal and Iron, 5 dis., sellers.

A letter, dated yesterday, from the Wolverhampton Iron Trade Exchange, says:—

"The future of the coal trade about the Bilston district is not improved by the appearances this afternoon, when the promoters of the petition adverse to the operation of the Mines Drainage Act expressed their conviction that before the time when it will be necessary to send it in the document will have possessed the legal force requisite to the cutting off that district from the rest of the drainage area. Such a result the market would greatly deplore, for it would be irrevocably disastrous to the Bilston and Wolverhampton neighbourhood. Apart, however, from that petition, the state of things brought out in the notice of Messrs. Sparrow to stop the Stow Heath pumps, was declared to forebode grave results to the same portion of South Staffordshire, unless an amount of voluntary aid should be forthcoming to supplement the rates of the Commissioners, which is not at present promised."

The North Staffordshire Iron Trade continues flat, and prices of most descriptions of produce are weak and irregular. Since the April quarterly meeting Crown bars declined in value 2*s.* 6*d.*; pig-iron 2*s.* 6*d.*; ironstone, 1*s.*; and coal, 1*s.* 6*d.* per ton. The prospects of an early improvement are not by any means encouraging.

At the heavy iron foundries of the Black Country a fairly sustained business is doing in gas and water mains, mill gearing and machinery, and other leading descriptions of produce.

Referring to the Mines Drainage Question, Mr. Sparrow writes:—Mr. Hill admits that on the stoppage of certain engines 22 collieries now at work will be drowned out; but he goes on to say, considering all things, it will not be such a serious calamity as some people would try to make the public believe. The Stowheath engines are pumping 1400 gallons of water per minute, and it has taken them 10 months to pump out the floods of July, 1875. From that date up to the present month they have not been at blast, having been kept at work up to their utmost capacity. The Sandy Gay engines are pumping 700 gallons a minute, and these engines have not yet overcome last year's floods, and it will probably take two or three months yet to get the pound out. The Bilston water-engine is pumping 500 gallons a minute; the owners of this engine are getting no coal in Bilston Colliery, and have kept this engine at work at their own cost for three years in order to protect their neighbours. Now, if these engines come to stand on July 1 for want of funds, the water will at once rise up to the new mine coal, and will drown out every colliery as far as the new mine coal hollows extend. It is not too much to say that 5,000,000 tons of coal will be irrecoverably lost to the district, for, as Colonel Thorneycroft said at the public meeting, no one would have the courage to face this difficulty, and, indeed, all the available engine-power in the district would be unequal to the task; for I have already shown that they have been taxed to their utmost capacity to contend with the daily come of water. The loss of this enormous quantity of coal would not be felt by the colliery owners alone, but by the general public, and particularly by the ironmasters in the Bilston district. The high price of coal has already put half the works in the district to stand, and the cost of importation, added to the price, will be just sufficient to close those works that are still struggling with the well-known difficulties of the times. It is not my intention to write a long letter, nor to point out all the benefits that may reasonably be expected if the mines drainage scheme is carried out to the extent intended by its promoters. I shall conclude with the words of Mr. Woodhouse, which he used at the Wolverhampton meeting—"If now, upon the first obstacle, by bad trade, to the carrying out of this great and beneficent scheme, they should under the little emergency determine that all the good that had been accomplished, and was likely to be accomplished, should be overturned, they would be an astonishment to the whole mining world throughout all time."

INFRINGEMENT OF THE MINES REGULATION ACT.—At the Willenhall Police Court, on Monday, Mr. William Bickley, proprietor of the Bradley Row Colliery, Bilston, and Thomas Lloyd, overman at the same colliery, were charged, the former with that, on Feb. 29, he neglected to observe the 18th general rule of the Mines Regulation Act, which states—"The roof and sides of every travelling road and working place shall be made secure, and a person shall not, unless appointed for the purpose, travel or work in any such travelling road or working place which is not so made secure;" and the latter with that, on the same day, he neglected to observe the 31st rule, which directs—"That he (the overman) shall strictly obey the instructions of the agent or manager in making secure the roofs and sides of every travelling road and working place." The case had been adjourned from May 22, and the proceedings were taken by Mr. J. P. Baker, Government Inspector. On Feb. 29 Luke Jones was working in the pit, under a crack in the roof, and owing to his neglect to put up a tree as a support a lump of coal fell upon him and killed him. The defence of Mr. Bickley was that Lloyd had plenty of timber in the pit, and that he ought to have had a tree put up. Lloyd's defence was that he gave the deceased instructions to see to the propping up of the coal. Mr. Bickley was fined 6*l.* 5*l.* and costs, and Lloyd 2*l.* and costs. Mr. Walker, solicitor, of Wolverhampton, appeared for the prosecution.

WELLINGTON IRON AND COAL COMPANY.—The fourth general meeting of shareholders was held, on Saturday, at Malinslee Hall, near Shifnal, Mr. W. M. Bullivant (the Chairman) presiding.—The report stated that the balance-sheet showed a loss, which had arisen from the exceptional depression and consequent low prices in the iron and coal trades and from other causes. Nothwithstanding these drawbacks, the results of the make and sale of iron, coal, &c., showed a profit of 2552*l.* 9*s.* 5*d.* With the completion of the colliery and new furnace the directors would now be able to raise 100,000 tons of coal annually at a reduced cost. The new furnace would be ready to blast at the end of the month, and the directors expected confidently to make from this furnace alone 12,500 tons of pig-iron annually, at a further reduced cost. The results of the expenditure on the reconstruction account would enable the company, with two furnaces only in blast, to make 20,000 tons of Old Park pig-iron annually.—The Chairman briefly moved the adoption of the report and accounts, and pointed out the numerous reductions in the costs of working which the directors had effected. All that they really wanted now was a change in the present depressed state of the market.—The motion for the adoption of the report was seconded by Dr. G. Horton, and carried unanimously.—Mr. Howell was re appointed a director, and other formal business was disposed of. A vote of thanks to the Chairman and directors for the care and attention with which they had performed their duties was then passed, and the meeting concluded.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

June 15.—Work goes on steadily in the lead mining districts of Derbyshire, but the production does not materially increase, whilst there does not appear to be any desire on the part of capitalists to venture into the trade. One or two Sheffield companies some years since were started to work the ore, but their experience has not been such as to induce others to do likewise. Private enterprise, however, has been far more successful, and the Messrs. Wass have done very well, as they have now the finest mines in the county, and raise more ore than all the others put together. The Coal Trade is by no means so brisk as might be expected now that the men have resumed work after standing for a couple of months, and some difficulty has been experienced in getting into the markets, and securing some of the old customers who had to go into other districts for their coal. In London the competition is very keen between the seaborne and inland coal, and with the low freights from Newcastle the former has been in the ascendant, for the North Country colliery owners have reduced their prices to a very low point. This they are enabled to do, seeing that the freight by water from the Tyne to the Thames is fully 2*s.* per ton lower than what is charged by the railways taking coal from Derbyshire or Yorkshire. It is, therefore, evident that the inland coal will have to be reduced to a much lower point that it is now at if business is to be done to anything like the extent it has been. Merchants in the Metropolis must have been doing very well of late, as they generally do when prices are at all low, for it is stated to me on good authority that North Country coal has been put into lighters on the Thames as low as 14*s.* per ton, so that it would leave a very fair margin of profit if sold at 24*s.* Now, if Silkstone coal is to come down to anything approaching that figure it is evident that wages of miners must come down much lower than they now are. As it is, the consumption of coal has been much less in the Metropolis during the first five months of the present year than it was during the corresponding period of 1875, despite the low prices that have ruled during the last two or three months. Rather more coal has passed from Derbyshire during the past week on to the Great Eastern line, which felt the effects of the strike, as well as most other railways. Steam coal is in better request than it has been for a very long time, but prices have not at all improved.

In some branches of the Sheffield trade business has been tolerably good, but in others there has been marked quietness and short work. The Atlas and Cyclops Works have been busily engaged in armour-plates for ships and forts, having considerable orders for the Continent. Italy has been a capital customer of late, having been engaged in the construction of a couple of very powerful ironclads which the Government wish to be considered as unequalled. They are sheathed with plates of the enormous thickness of 22 in., rolled by Cammell and Co. (Limited), being thicker than any yet introduced into the British Navy. It is considered, however, that two plates, each 11 in. thick, with a strong parting of teak between them, would bestow a much greater resisting power. The establishments engaged in Bessemer rails and forgings have been doing very well, particularly the former, although it is said the prices at which the orders have to be taken are the reverse of good. Some of the ordinary steel smelters are far from being busy, whilst spring-knife cutlers are only partially employed. In fine table cutlery some of the houses are able to keep their men in full work, but such is not the rule. In foundry material business is tolerably good, and now that so many collieries have commenced work business, no doubt, will flow in more freely than it has done for some time past.

In South Yorkshire there are now only some four or five collieries, including Manver's Main, Swaithe and Edmund's Main, and Wharncliffe Woodmoor, standing; and, no doubt, a few days will see them again in full operation. Prices of coal of every description are very low, and even the reduction in wages will leave our colliery owners with a very small margin of profit. Some of the colliery companies are in anything but a healthy state; and now the little concerns, for which fabulous sums were given some four or five years ago, stagger those who are well acquainted with the trade. They have been worked at a loss; and, as coal must come down lower than it now is, the prospects are certainly most gloomy. The Silkstone Main Colliery, recently in possession of the Coal Consumers' Company, is to be sold, on Wednesday next, in Barnsley; and in all probability will be purchased by a company recently started to work the adjoining coal field. By so doing it would not require the company alluded to to sink a couple of shafts to the Silkstone coal. The secretaries of the Miners' Association just now are in anything but good odour, and have found it necessary to propound a new scheme for its management; but the men are strongly opposed to sending any more money to the headquarters at Barnsley, and declare that each lodge shall retain its own money. The future of the Association appears to be anything but bright, for both inside and outside there are dissensions that are most portentous.

In West Yorkshire the miners have been asked to submit to a reduction of 12½ per cent.; and there is every reason to believe that a settlement will be come to.

The annual meeting of the great iron and steel manufacturing company of Charles Cammell and Co. (Limited), Sheffield, was held on Wednesday, at the works, under the presidency of Mr. Charles Cammell. The report showed that the company had made a net profit during the year of 106,869*l.*, and that with a balance of 7328*l.* from last year there was a total for the shareholders of 114,197*l.* An interim dividend of 3*l.* per share had already been paid, and the directors now proposed paying 8*l.* per share more, making a dividend equal to 10 per cent. In moving the report, Mr. Cammell said the commercial horizon was still overshadowed by clouds, and he was afraid the country had to pass through a time of depression, but after that renewed vigour would set in.—Mr. Munster, a large shareholder, stated that the company's shares had suddenly risen from 1 dis. to 5 prem.—The report was unanimously adopted.

The directors of John Brown and Co. (Limited), Atlas Steel and Iron Works, Sheffield, have decided to recommend a dividend of 10 per cent. per annum, inclusive of interim dividend paid in December.

James Peet, the engineman through whose mistake three men lost their lives at the High Brooks Colliery, near Wigan, on Monday, has been committed for trial, on a coroner's inquisition, for manslaughter. The Government Inspector of Mines for the district (Mr. Hall) said he hardly thought the mistake Peet made—turning his lever the wrong way while flurried by the talk of persons near him—was a criminal one, and when the mistake had been made there was little time to correct it, the interval between its commission and the ar-

rival of the "hoppit" at the bottom of the pit being only about eight seconds; but the Coroner (Mr. Driffield) held that Peet was responsible for his mistake, and told the jury there was no escape from a verdict of manslaughter.

The agitation against the officials of the South Yorkshire Miners' Association for settling the dispute without the sanction of the lodges has drawn from them a lengthy circular, which contains some startling facts and figures, which miners generally will do well to study. The circular, signed by Messrs. Frith and Chappell, the secretaries, is addressed to the members of the South Yorkshire and North Derbyshire Miners' Association. The circular goes on to point out the various steps taken with regard to the masters' demand for a reduction of 15 per cent., and the result of the strike which followed, and begs of the men to form a Board of Conciliation as soon as possible, consisting of such gentlemen as Mr. Mundella, M.P.; Mr. Plimsoll, M.P.; Mr. Alderman Moore, and one or two others, and let matters in dispute be thoroughly discussed, and every possible means adopted before a strike is resorted to. After referring to the unsatisfactory state of affairs which existed when they took office, and the jealousy which is so prevalent, they state the association at the beginning of the year was in debt to the amount of 2132*l.*, which was borrowed on some property they have at Sheffield, and during the present year 1875*l.* has been repaid. Referring to the cost of the strike, the officials say that at first sight it may appear startling, nevertheless it is true, that the 11,599 men who men who struck lost 101,486*l.* in wages, and, on the whole, the loss to workmen and their families would amount to nearly a quarter of a million of money; and if the strike had been settled soon after the struggle commenced the cost would not have been more than 10,000*l.*, instead of 250,000*l.*

REPORT FROM LANCASHIRE AND CHESHIRE.

June 15.—There is no change to report in the condition of trade. An important movement concerning wages has been made by the colliery proprietors of West Lancashire. For some time past a proposal for a reduction has been under discussion, but mainly owing to a want of unanimity amongst the colliery proprietors the issuing of the necessary notices has been deferred. At a meeting of the Coal Trade, on Monday in Liverpool, however, it was unanimously resolved that a reduction of 15 per cent. be made, to take effect on the 30th inst. There is no likelihood that the experience of 1874 will be repeated, and that the course of the men will be aided by some of the colliery proprietors continuing to work their pits while the rest are on the strike, a remarkable degree of unanimity prevailing amongst the masters.

There are now no fewer than three cases of manslaughter for trial at the Liverpool Assizes arising out of colliery accidents. The third took place this week, an inquest having been held on Wednesday, at Ashton, touching the deaths of three men who were killed at the High Brooks Colliery, belonging to the Garswood Coal and Iron Company (Limited), on Monday, through a mistake of the engineman. The deceased were suspended in a hoppit in the shaft making some repairs, and on a signal being sent to the surface to wind them up the engineman, James Peet, reversed his lever, and the men were lowered instead. Mr. C. Latham, the chief engineer, was at the other side of the engine at the time, and on seeing the mistake he called out to Peet, who was confused, and who immediately put on the brake. Latham ran round the engine and pulled over the lever, but it was stated that the hoppit would then be in the water at the bottom of the shaft. The engine was going at a great speed, and the force broke the brake rim. The bodies of the three men were afterwards found in the water, which was about 14 yards deep. Soon after the accident Peet admitted that it had happened through his forgetfulness, and that the engine was a good one. Several witnesses stated that Peet was a careful and sober workman.—Mr. Hall, Government Inspector of Mines for the district, said he had made a calculation as to what interval would elapse between the engineman making the mistake and the hoppit reaching the bottom of the pit, and it seemed to him it would occupy about eight seconds. So that there was very little time to correct his mistake when once made. He mentioned that two similar mistakes had recently been made at two different collieries by two good enginemen, and he believed in the present instance the engineman was flurried by what was said to him by the people who were present at the time. He hardly thought the mistake was a criminal one, but without a doubt the accident was caused by the engineman's mistake. The Coroner said the same engine met with an accident some time ago at another pit, but Mr. Hall said there was not the slightest connection between these two accidents, the former being due to a defective throttle valve. He had not found anything in the engine to excuse the mistake. In his summing up the Coroner said Mr. Hall had very kindly suggested that the mistake was one to which enginemen was subjected, but he was afraid he must direct the jury differently. Supposing his mistake had resulted in injury to property he would have been liable to be taken before the magistrates, and here they had it that three deaths were the direct result of the act. That mistake he was responsible for, and it was as much an act of manslaughter as anything he could have done. There was no escape from a verdict of manslaughter; had there been any recklessness it might have been murder.—After a short consultation the jury returned a verdict of Manslaughter against the engineman, James Peet.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has remained very quiet. In shares of iron and coal concerns the movements are limited to an improvement of 7s. 6d. on Arinston and 1s. 6d. on Monkland, but a decline of 2s. 6d. on Benhar (New). Chillington and Marbella are firmer. Bilbao Iron Ore is 40 to 42; Bolckow, Vaughan, "B," 38½; Brynmawr, 10, sellers; Chapel House, 3, sellers; John Bagnall and Sons, 5, sellers; Pelsall Coal and Iron, 10, sellers; Sheepbridge Coal and Iron, 12½ to 13 prem.; and Spon Lane, ½ dis., sellers. In shares of foreign copper concerns the movements are all favourable, Canadian Pyrites having advanced ½, Rio Tinto and Tharsis ¼ each, and Huntington ⅛. 6*d*. New Quebrada is at 4; Rio Tinto, 5 per cent. bonds, 9; and San Pedro 1¼. The meeting of the Kapunda Mining is called for the 26th inst.—Yorke Peninsula (ordinary) keep firm at 7*s.* buyers; a useful sketch has been issued (made by a shareholder for his own reference), showing the relative position of the lodes, shafts, levels, &c., on the Kurilla property of this company, and should be seen by those interested. In home mines there has been nothing doing. Dunsley Wheal Phœnix is now at 9*d.* Glasgow Caradon is 3*s.* 6*d.* higher, at 28*s.* 6*d.* buyers. Aberdaunant is 13*s.*, sellers; Assheton, 1⅛; Bedford United, ⅞; Frank Mills, ½, buyers; Gawton, ¾, Glenroy, 7¾; sellers, Glyn, 3; Great Wheal Vor, ¼; Gunnislake, (Clitters), 2 to 3; Killifreth, 18*s.*, sellers; Marke Valley, 1⅞; North Laxey, ⅞, buyers; New Pembroke, ⅝; Rookhope Valley, 1½; Tankerville, 10¾, sellers; West Tankerville, 2; ditto (preference), 2 3-16ths to 2 5 16ths; Wheal Crebor, 2 to 21; Wheal Grenville, 1¼; and Van Consols, 2. In shares of gold and silver mines, Emmas have fallen 5*s.* 3*d.*, Richmond ¼, and Flagstaff 1¼. Birdseye Creek report a profit of $1750 on last clean-up, Chicago of $21,000, Chontales a loss on the last month of 151*l.* 19*s.*, and Jewall also a loss of 258*l.* The Richmond run is $42,000, rather over last week's. Sweetlands firmer, as the quotations contain the dividend payable this month. Almada is ¼ to ⅜; Birdseye Creek, 1⅝, sellers; Cedar Creek, 11*s.* to 14*s.*; Chontales, 7*s.* to 8*s.*; Don Pedro, 3*s.* 6*d.* to 5*s.* 6*d.*; Eberhardt and Aurora, 9¼; Frontino and Bolivia, 2¼; New Zealand Kapunga, ½ to 1; Pesterena United, 5*s.* 3*d.*, buyers; Rica, 3*s.*, sellers; Rossa Grande, 1*s.* 6*d.*, sellers; Santa Barbara, 29*s.* to 29*s.* 6*d.*; South Aurora, 8*s.* 3*d.*; Sweetland Creek, 1, sellers; Tecoma, ¾ to ⅝; and Western Andes, 5 sellers. In shares of oil companies, Uphall, ¼ lower; others unaltered. In shares of miscellaneous companies, beyond a fall of 1 in Peruvian Nitrate, there is no change to report. Ashbury Railway Carriage and Iron is at 35 to 32 dis.; Birmingham Wagon, 21¼ to 22¼; Milner's Safe, 11¼; and Patent Shaft and Axletree (preference), 10 buyers. Saturday having been a holiday, there were no transactions to report for that day. Details of the several days' business follow:—

On THURSDAY last little business done. Aberdaunant, 13*s.*, sellers. Benhar done at 10 3-16ths and 10 1-16th, closing 10 1 16th to 10⅛; new shares done at 6¾. Canadian Copper Pyrites, ⅝ to ¾. Cedar Creek, 10*s.* to 13*s.* 9*d.* Chapel House, 2¼ to 3. Dalmeny Oil, 5 to 5½. Dunsley Wheal Phœnix done at 9*d.* Glasgow Caradon, 28*s.* 6*d.* to 27*s.* 6*d.*, Monkland, 1⅞ to 2. Peruvian Nitrate, 12, sellers. Parys Mountain, 19*s.*, buyers. Pestarena United, 5*s.* 6*d.*, sellers. Richards and Co., 5 to 7. Richmond done at 9 and 8⅞, closing at these prices. Shotts, 50 to 55; new shares, 9½ to 10. South Aurora, 8*s.*, buyers. Sweetland Creek, 1, sellers. Tharsis, 19½ to 19½; new shares, 13¼ to 13½. Young's Paraffin, 9¼ to 9½. Scottish Wagon, 4⅛ to 4⅜.

On FRIDAY more business done. Aberdaunant, 13*s.*, sellers. Bedford United, ⅞, sellers. Benhars done at 10 1-16th and 10⅛. Canadian Copper Pyrites, 1 to 1¼. Cedar Creek, 11*s.* to 14*s.* Dalmeny Oil, 5 to 5¼. Emma done at 2*s.* and 18*s.*, closing 16*s.* to 18*s.* Glasgow Caradon done at 26*s.*, closing 27*s.* to 30*s.* Hingston Down done at 7*s.* 6*d.* Huntington done at 5*s.* 6*d.* and 6*s.* 6*d.*, closing 6*s.* 6*d.* to 7*s.* 6*d.* Pestarena United, 5*s.* 6*d.*, sellers. Richmond done at 8¼, closing 8⅛ to 8⅝. Shotts (new), 9¼ to 10. South Aurora, 8*s.*, buyers. Tharsis done as 19¼ and 19 9 16ths, closing at those prices. West Tankerville, 1⅞ to 2. Young's Paraffin, 9¼ to 9½ Scottish Wagon, 4⅛ to 4⅜.

On MONDAY (being contango day) market was quiet. Cedar Creek, 11*s.*, buyers. Dalmeny Oil, 5 to 5¼. Ebbw Vale, 10½ to 10¾. Emma, 16*s.* to 17*s.* 6*d.* Flagstaff, 21*s.*, sellers. Glasgow Caradon, 28*s.* 6*d.* to 29*s.* 6*d.* Huntington, 6*s.* 6*d.* to 7*s.* Marbella done at 50*s.*, closing 49*s.* to 50*s.* Pestarena United, 5*s.* 6*d.*, sellers. Port Phillip, 6*s.* 3*d.*, buyers. Rica, 3*s.*, sellers. Richmond, 8¾ to 9. Rio Tinto done at 5½. Scottish Australian, 28*s.* 9*d.* to 33*s.* 9*d.* South Aurora, 8*s.*, buyers. Sweetland Creek, 1⅛, sellers. Tharsis opened at 19¾, and further improved to 20, and then done at 19⅞, closing 19⅞ to 20; new shares 13¼ to 13½. West Tankerville, 2, sellers; preference, 2 3 14ths, buyers. Yorke Peninsula (ordinary), 7*s.* to 9*s.* Young's Paraffin done at 9⅛, closing 9¼ to 9⅜. Scottish Wagon, 4⅛ to 4¾. The following were the rates of continuation current to-day:—Contangoes: 1*d.* on Canadian Copper Pyrites; ½*d.* on ditto (3*l.* paid); 1*d.* on Emma; 1*d.* on Glasgow Caradon; 1*d.* on Port Washington; 1*d.* to ½*d.* on Huntington; 2*d.* on Marbella; 1*d.* even on Monkland; 1*d.* on Omoa and Cleland; 3*d.* on Tharsis (7*l.* paid); 4*d.* on Young's Paraffin. Backwardations: 3*d.* on Richmond; 5*s.* on Shotts; 6*d.* to 9*d.* on Tharsis (10*l.* paid). On comparing the making up prices fixed to-day with those for the previous account, the alterations following are observed on the several shares to the extent noted:—Canadian Copper Pyrites, 8*s.* 9*d.*; Monkland, 2*s.* 6*d*; Richmond, 15*s.*; Tharsis (10*l.* paid), 2*s.* 6*d.*; and Young's Paraffin, 2*s.* 6*d.*—all higher. Emma, 2*s.*; Glasgow Caradon, 9*d.*; Huntington, 1*s.* 6*d.*; Omoa and Cleland, 9*s.*; Shotts, 5*l.*; and Tharsis (7*l.* paid), 2*s.* 6*d.*—all lower. Canadian Copper Pyrites (new), Glasgow Port Washington, and Marbella are unaltered.

On TUESDAY the new account opened for settlement June 19; Monday, June 26, will be contango day; very little business done. Arniston, 7 to 7½. Benhar (new), done at 7⅞. Chapel House, 3, sellers. Dalmeny Oil, 5 to 5¼. Emma, ¾ to ⅞. Flagstaff, 1¾ to 2. Huntington done at 6*s.* 6*d.*, closing 6*s.* 6*d.* to 7*s.* Omoa and Cleland, 1¾ to 1¼. Pestarena United, 5*s.* to 5*s.* 6*d.* Port Phillip done at 6*s.* 3*d.* Richmond done at 8¾, closing 8⅛ to 8⅞. Tankerville, 10¾, sellers. Tharsis done at 20 and 19¼, closing 19⅛ to 19⅞: new shares done at 13¼, closing 13⅛ to 13⅜. Young's Paraffin done at 9⅜, closing 9¼ to 9⅜. Scottish Wagon, 4¼ to 4¾.

On WEDNESDAY more business done. Arniston done at 7¼. Chapel House, 3, sellers. Dalmeny Oil, 5 to 5⅛. Don Pedro North del Rey, 3*s.* 6*d.* to 5*s.* 6*d.* Emma done at 18*s.*, closing 15*s.* to 16*s.* Flagstaff, 1⅞ to 2⅛. Glasgow Caradon, 28*s.* 6*d.* to 29*s.* 6*d.* Huntington, 6*s.* 6*d.* to 7*s.* 6*d.* Javali, 6*s.* to 7*s.* Last Chance, ¼ to ⅜. Marbella done at 50*s.*, closing 50*s.* to 51*s.* Omoa and Cleland done at 1⅝ to 1¾. Pestarena United done at 5*s.* 3*d.* Richards and Co., about 5. Richmond, 8½ to 9. Scottish Australian, 28*s.* 9*d.* to 33*s.* 9*d.* South Aurora, 8*s.* to 9*s.* Sweetland Creek, 1, sellers. Tankerville, 10⅝, sellers. Tharsis done at 19¾, closing 19⅝ to 19⅞; new shares, 13⅛ to 13⅜. West Tankerville, preference shares, 2 3 16ths to 2 5 14ths. Yorke Peninsula (ordinary), 7*s.*, buyers. Young's Paraffin, 9¼ to 9½. Scottish Wagon, 4¼ to 4⅜.

Subjoined are this week's quotations, &c., of mining and metal shares quoted on the Scotch Stock Exchanges:—

Capital. Per share.	Paid up.	Dividends. Rate per cent. per annum. Previous.	Last.	Description of shares.	Last price.
				COAL, IRON, STEEL.	
£ 10	£8	£10	£ 8½	Arniston Coal (Limited)	7¼
10	10	14	9	Benhar Coal (Limited)	10 1-16
10	7	14	9	Ditto	6⅞
100	40	12½	7½†	Bolckow, Vaughan, and Co. (Lim.)	A. 51⅜
10	10	10	10	Cairntable Gas Coal (Limited)	8
10	10	5	nil	Chillington Iron (Limited)	3⅞
32	29	7	½†	Ebbw Vale Steel, Iron, and Coal (Lim.)	10⅝
10	5	nil	nil	Fife Coal (Limited)	3½
10	10	—	—	Glasgow Port Washington Iron & Coal (L)	2
10	10	—	—	Ditto Prepaid	2
10	10	—	—	Lochore and Capledrae (Limited)	7
10	10	5	nil	Marbella Iron Ore (Limited)	2½
10	10	5	nil	Monkland Iron and Coal (Limited)	38*s.* 6*d.*
10	10	7	7	Ditto Guaranteed Preference	4¾
100	100	nil	nil	Nant-y-Glo & Blaina Ironworks pref. (L)	30
6	5	15	nil	Omoa and Cleland Iron and Coal (Lim.)	1⅝
1	1	15	15	Scottish Australian Mining (Limited)	1½
1	8*s.*	15	15	Ditto New	8*s.* 6*d.*
50	50	10	5	Shotts Iron	53
10	10	10	5	Ditto New, issued at 2½ prem.	10
				COPPER, SULPHUR, TIN.	
4	4	—	—	Canadian Copper Pyrites (Limited)	½
4	3	—	—	Ditto (£3 paid)	⅛
10	7	20*s*	20*s*‖	Cape Copper (Limited)	40
2	2	—	—	Dunsley Wheal Phœnix Tin (Limited)	9*d.*
1	1	15	15	Glasgow Caradon Copper Mining (Lim.)	28*s.* 6*d.*
1	15*s.*	15	15	Ditto New	1
10	9	—	5	Huntington Copper and Sulphur (Lim.)	6*s.* 6*d.*
25*s.*	23*s.*	—	—	Kapunda Mining (Limited)	2*d.*
4	4	—	—	Panulcillo Copper (Limited)	2
10	10	6†	6†	Rio Tinto (Limited)	5¼
20	20	—	—	Ditto, 7 per cent. Mortgage Bonds	14
100	100	—	—	Do., 5 p. ct. Mor. Deb. (Sp. Con. Bds.)	53
10	10	nil	nil	Russian Copper (Limited)	2¼
10	10	25	22½	Tharsis Copper and Sulphur (Limited)	19¼
10	7	25	22½	Ditto New	13¼
1	1	—	—	Yorke Peninsula Mining (Limited)	7*s.*
1	1	—	—	Ditto, 15 per cent. Guaranteed Pref.	⅞
				GOLD, SILVER.	
1	1	5	5	Australian Mines Investment (Limited)	8*s.* 9*d.*
20	20	—	—	Emma Silver Mining (Limited)	16*s.*
10	10	—	—	Flagstaff Silver Mining (Limited)	2
5	5	—	—	Last Chance Silver Mining (Limited)	⅛
5	5	—	35	Richmond Mining (Limited)	8¾
				OIL.	
10	7	2½	5	Dalmeny Oil (Limited)	5
10	10	—	2½	Uphall Mineral Oil (Limited)	5
10	8½	5	5	Young's Paraffin Light & Mineral Oil (L)	9¾
				MISCELLANEOUS.	
50	25	16	16	London and Glasgow Engineering & Iron Shipbuilding (Limited)	19
20	14½	—	—	Peruvian Nitrate (Limited)	12
10	10	8	5	Scottish Wagon (Limited)	10⅞
10	4	8	5	Ditto New	4½

† Interim. ‖ Per share.

Last day for this account June 26; settling day, June 29.

NOTE.—The above lists of mines and auxiliary associations is as full as can be ascertained, Scotch companies only being inserted, or those in which Scotch investors are interested. In the event of any being omitted, and parties desiring a quotation for them and such information as can be ascertained from time to time to be inserted in these lists, they will be good enough to communicate the name of the company, with any other particulars as full as possible.

J. GRANT MACLEAN, Stock and Share Broker.
Post Office Buildings, Stirling, June 15.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

June 15.—Week after week the report which comes from this district is perforce of the most discouraging character, and it would be a pleasant task to once again speak hopefully of the staple trades, but still the cloud which overhangs the business aspect of the district shows no signs of uplifting. The men have now gone back to work after the Whitsuntide holidays, at least those who had any work to go to, and most of them have returned to half-time employment, which is too frequently now all they can obtain at the ironworks. Exports of rails are, however, again showing a trifling increase, and these chiefly go to the Swedish ports, with a few parcels to Prussia, and now and then one to Turkey. Colonial requirements are not very brisk now, and the enquiries on home account are small. At the Landore Steelworks the strike still continues, and at the tin-plate works business is far from being active. Last week these establishments were entirely stopped in consequence of the resolution recently passed by the masters. The Llangennech Tinworks have been closed for some months, and here great distress prevails among the employees. Indeed, only a few days ago the men petitioned some members of the company to open the works if only for a limited time each week, going on the principle that "half a loaf is better than no bread." The men were met kindly, but one of the partners who replied to the deputation could hold out no immediate hope of relief.

The delegate meeting at Merthyr, which came off at the beginning of the week, to elect members on the workmen's side of the Conciliation Board was not so largely attended as might have been expected, but still the result must be pronounced on the whole satisfactory. The delegates re-appointed the old members of the board—Messrs. W. Abraham (Loughor), Henry Mitchard (Blackwood), David Morgan (Mountain Ash), J. Prosser (Nantmelyn), and Thomas Halliday. The next question which engrossed attention was the subject of allowances to be made to the members for expenses. This was rather a sore point with some of the delegates, and ultimately it was agreed to allow 10*s.* per day and third-class railway fare. Again, there is a considerable sum of money due for the expenses of the workmen's representatives, and this sum it is proposed to raise by means of a levy of 6*d.* per man, to be deducted next pay-day, if the colliers will agree to such a proposal. A circular has been sent round asking them to do this. The Coal Trade generally is rather active—that is to say, the output continues considerable, although several collieries are stopped. Prices, especially for steam qualities, are exceedingly low, and if times do not alter for the better it is evident that some of the smaller concerns will have to be soon closed. House coals are in less demand, and for patent fuel the enquiry is unchanged. In the anthracite district business, which had been rather brisker, is again depressed. The coal trade at Gower Road is exceedingly dull. There is a probability of the Waunarlwydd Collieries coming to a standstill. At the Caergynydd Colliery notices to terminate contracts in a fortnight have been issued, and the Bishwell pit has been entirely stopped.

The Wye Valley Railway is completed, and will soon be opened for passenger traffic. As it is goods trains are already running on it. The line runs in the valley of the Wye, as its title implies, and independent of goods traffic a large number of passengers, attracted by the beauty of the scenery, will, doubtless travel on the line in the summer months.

The South Wales Institute of Engineers have held their ordinary general meeting at Cardiff, Mr. James Blogden, F.G.S., the President of the Institute, in the chair. In the course of his address he said that the district might be suffering from the "bad state of trade which has paralysed our iron manufacture, and thrown the coal otherwise consumed on an already overstocked market." He spoke favourably of the development of the mineral resources of the district, stating that "naturally condensed coal will have greater consumption than ever (in the future), and will be a favourite fuel where the cost will enable it to compete with other districts." He also gave some valuable hints on the economising of the production of coal in the workings.

The shareholders of the Great Western Railway have approved of a bill which, *inter alia*, provides powers for a junction connecting the Monmouthshire Railway with the Pontypool, Cuerleon, and Newport line.

The South Wales Colliery Association have held their quarterly meeting, but the business transacted was only of a routine character.

The following notice has been given of a motion in the House of Commons, on July 4, by Mr. Callan, member for Dundalk: "Limited Liability Companies—To call the attention of the House to practices connected with the 'placing' on the Stock Exchange and circumstances attending the 'floating' and the issuing of prospectuses and the inviting of subscriptions to limited liability companies of the description of the Emma Mine, so called, which have been either compulsorily or voluntarily wound-up, or in which modifications of the capital have been made, more similar to the Nant-y-Glo and Blaina Ironworks Company, and to move for a Select Committee to enquire into the subject."

REPORT FROM THE FOREST OF DEAN.

June 15.—The main trades of the Forest—of coal and iron—continue in a very depressed condition, scarcely any activity being observable in any direction, nor does hope point to improvement as near at hand. Few, if any, remember trade equally dull as it regards the local industries and produce, yet a change for the better must come, as stocks will become exhausted, and consequent fresh demands will crop up, and capital will have a new start, but at present no indication striking and clear are observable on the mercantile horizon. This "masterly inactivity" asserts its power to chill aspiration and depress hope, by leading men captive, instead of being subservient to man's will, but wait and hope against hope seems to be a necessary motto just now.

The Lydney tin-plate workers held a meeting early this week, and decided to resume work at 7½ per cent. reduction, but they allege a great want of fairness on the part of the firm—the same firm owning the works at Lydney as owns the Lydbrook Tin-Plate Works—the Lydbrook men having received five weeks' notice of reduction, whilst the Lydney men, practically, received what amounted to none at all, as a day or two can scarcely amount to a notice in such a case. The Lydney men, however, having yielded to a reduction of wages it is hardly likely that the Lydbrook men will oppose similar terms.

Several claims for wages against Messrs Spicer and Co., colliery proprietors, of Small Works, near Churchway, were heard at Newnham County Court on Tuesday, and, excepting one of the cases adjourned for particulars, the judge decided in favour of the plaintiffs. An arbitration case, relating to Wigpool and Westbury-brook Iron Mines, is put down for decision this week in London.

SOUTH WHEAL CROFTY.—There will be a very good sampling of copper for the next sale. It is most gratifying to learn that all the lords have very kindly responded to the application of the shareholders for a reduction of dues, and that an improvement of a substantial kind is fully expected in the 180 north cross-cut, which they are driving as fast as possible to intersect the lodes which have hitherto appeared in constant and rich droppers in the 160, and which is confidently believed will form a consolidated course of ore in the 180. The tributers are constantly finding branches of good copper in the workings wholly unexpected, and great expectations are also formed as to the south lodes where they have amalgamated. It is stated upon competent authority that this will be a great mine, and a change for the better may take place at any time. There can only be one opinion respecting Mr. Lean—that he is an excellent purser, prompt and courteous, and very able in the discharge of his duties. We hope that Capt. Pascoe, who has just succeeded Capt Johns, will prove himself worthy in every way of the confidence of the shareholders; he was well recommended as a good miner.

EXPLOSIVE COMPOUNDS.—The explosive invented by Mr. A. DIECKERHOFF, of Vienna, is composed of finely powdered picric acid, nitrate of potash, nitrate of sodium, flour of sulphur, mixed with wet sawdust, and then dried.

MANUFACTURE OF IRON.—According to the provisional specification of Messrs. TRICK, DAVIS, DANIEL, and PHILLIPS, of Swansea, steam is introduced near the jam of the puddling-furnace. The furnace is fettled with cinder from a balling furnace, which is provided with a bed of oxide ore.

BRADWELL MOSS RAKE MINING AND LEAD ORE SMELTING COMPANY.
(LIMITED).

THIS COMPANY'S MINES extend for more than half-a-mile on one of the strongest LEAD VEINS in DERBYSHIRE. In driving the 1st level, running in part through the old men's workings, there have been raised and sold upwards of £1200 worth of ore, and the ore is exceptionally rich.

The mine has a NEW STEAM ENGINE, BOILER, and CRUSHING MILL, and other appliances, and the main shaft has been already sunk 15 yards below the 1st level, so as to get under the old men's workings; and it is the opinion of the miners of the neighbourhood that when sunk a little deeper and the level driven immensely profitable mine will be laid open.

The working and management are most economical, for the mines have been retained and developed and new machinery bought and erected on a capital of 20 shares, of £1 each.

To develope the mines more rapidly, TWO THOUSAND additional SHARES have been created, and part are OFFERED to the PUBLIC at par price of £1 each.

The first applicants will receive allotment, and any desirous of embarking in a most profitable investment should apply at once, before the shares rise to a great premium, which they cannot fail shortly to do.

Payment must be made of 10s. per share on application, and 10s. on allotment.

Letters to be addressed, and orders or cheques made payable, to the Vice-Chairman, Mr. JAMES BURNS, at the office of the Secretary, Mr. THOMAS BROADBENT, Bradwell, near Hope, Derbyshire.

THE SILVER HILL COPPER MINING COMPANY.
ON THE COST-BOOK SYSTEM.

In 5000 shares of £1 each.

Deposit 5s. per share on application, and 5s. per share on allotment, and the balance, if required, in calls of 2s. 6d. per share, at intervals of not less than four months.

MANAGER AND PURSER.

Mr. CHARLES BAWDEN, Poldice House, St. Day, Cornwall.

BANKERS.

Messrs. TWEEDY, WILLIAMS, AND CO., Redruth, Cornwall.
Messrs. GLYN, MILLS, AND CO., London.

The object of this company is to develope a piece of unexplored mining ground in the vicinity of the rich mines of the Gwennap district, Cornwall; is held under lease to grant a lease of 21 years, at a royalty of 1-18th dues, with £30 per annum minimum rent.

The property is about 500 fathoms long and 300 fathoms wide, and embraces several large lodes, one of which has been wrought to a depth of 14 fathoms below the adit, from which superficial trial, without the aid of machinery, several hundred pounds worth of mineral have been sold. It is now intended to erect a 30-inch pumping engine of 40 inch diameter cylinder, to sink the shaft on the lode, and so as to enable the company to take away the ore gone down in the bottom, and to open up a mine of wealth by deeper sinking.

The primary object of this company is to work lodes in hitherto unexplored ground, having all the elements of producing rich deposits of mineral, thereby acquiring a valuable property for a comparatively small outlay, the cost of which is calculated will not exceed the amount stated.

The desirability of prosecuting such ground will be easily understood when it is known that the surrounding mines have given the shareholders over £1,000,000 sterling in dividends.

The shareholders will have the full benefit of the amount subscribed, there being no promotion money nor free shares, the only charge being £300 to cover cost of fees, and legal and out of pocket expenses in obtaining the setts.

One half of the capital will be privately subscribed, leaving only 2500 shares to be issued, and where no allotment the amount to be returned in full.

Application for shares to be made by letter (enclosing the amount of first call of 2s. per share on the number of shares applied for), either to the manager or bankers of the company, in return for which the bankers' receipt will be forwarded.

IMPORTANT.

AN EXTRAORDINARY OPPORTUNITY for the PROFITABLE EMPLOYMENT of MONEY presented by the SHARES of the

TALYBONT SILVER-LEAD MINING COMPANY
(LIMITED).

Capital £30,000, in 30,000 shares of £1 each.

This mine (situate in the village of Talybont, seven miles from Aberystwith, in the county of Cardiganshire) has been worked for many centuries past, and has yielded millions of pounds worth of ore; and, from the immense quantity of ground still remaining to be worked, doubtless many more millions will be extracted.

The historical associations of the property are both important and interesting. One period of its history it was mainly incidental in providing Sir Hugh Myddelton with the vast riches he so generously expended on that great work which has immortalised his name—the introduction of the New River to the Metropolis. When King Charles established a Mint at Aberystwith Castle the silver was supplied from this mine. It was then being worked by a Mr. Bushel, and was so remunerative as to enable that gentleman to lend the King very large sums of money, besides still further demonstrating his loyalty by equipping an army that remained with the King until the time of his surrender, and in whose ranks were enrolled no fewer supporters than the miners belonging to the village of Talybont.

At the Exhibition of 1851 there was exhibited a single stone of silver-lead ore, weighing 1 ton 10 cwts., extracted from this mine, which was universally admitted to be one of the finest mineralogical specimens ever produced.

The sett is about one mile in length, and more than half a mile in width, situated in the heart of one of the richest mineral districts.

The mining operations are under the direction of Capt. Thos. Glanville, M.E., under whose management East Carn Brea, West Basset, and North Basset Mines made such immense returns, North Basset alone having given over £100,000 profit.

The Talybont Mine is only three miles from the railway station of Llanfihangel, on the Cambrian Railway; the River Lerry runs past the washing-floors, and affords ample water power the whole year round. Miners are abundant in the village. Therefore the company possess local advantages rarely equalled and very conducive to the success of a mining company; but more important than such considerations is the fact that this property contains several ascertained and proved and valuable lodes of silver lead.

A mining company formed for the purpose of exploring an untried sett must perhaps partake largely of the element of speculation. A considerable sum has to be expended in "dead" or unremunerative work; the erection of the machinery costly, and a considerable time is occupied before the value can really be proved. The Talybont Company, however, suffers from no such infant-mining malady, for the existence of lead has been proved for centuries past, and thousands and thousands of tons extracted, and the sett being so extensive is not yet one-half worked. The dressing and crushing machinery is all erected and working perfectly. A deep adit level is driven three quarters of a mile, in which a railway is laid, besides many other levels of considerable length, the cost of driving which must have been enormous, and which are invaluable for future operations.

From the character of the present works such a vast deposit of ore may any day be met with as would increase the value of these shares enormously.

Taking into consideration the fact that the recent discoveries are in entirely "virgin" or new ground, it is almost impossible to over estimate their importance, and it may fairly be regarded as one of the most valuable mineral discoveries ever made in Wales.

The shares of this company offer an investment for money such as is extremely rarely met with. It is no ordinary speculation, but the continuance of mining operations that for centuries have produced immense wealth, and whose prospects were never more encouraging than at the present time.

The shares are fully paid up, so there is no further possible liability.

The following is a report by Captain Thomas Glanville, M.E., lately received by the directors:—

Talybont Silver-lead Mine, May 11, 1876.

GENTLEMEN,—When appointed to the management of this mine I did not hesitate to say in my first report that I had never entered upon new duties so confident of great success—a somewhat important statement when my 40 years' mining experience in various parts of the world is taken into consideration—and I have much pleasure in being able to state that recent operations have confirmed my opinion of the immense mineral wealth of the Talybont Mine.

The new shaft is now communicated with the level west of Deep Adit. This is a most important work achieved, as it renders available for working a large section of fine ground.

This shaft is sunk from surface on the course of an east and west lode 30 fms., producing about 1½ ton of silver-lead per fathom.

From this shaft, 12 fms. from the surface, we have driven a level east 6 fms., in which the lode is over 3 ft. wide, and of the same productive character. We have also driven a level west with like success. We are now driving an intermediate level east and west with all possible dispatch.

The lode on which this new shaft is sunk is parallel with the enormously rich masses of ore previously extracted, and the matrix of the lode is identical, containing the same very rich gossan.

Now that the communication is effected, all the orestuff can be shot into the levels and run direct out to the dressing-floors by means of the deep adit railway, thus saving all cost of cartage.

The property could not be better situated for economical working. We have fine water power at all seasons for driving our machinery—a most valuable consideration.

Since the crusher and jiggers have been supplied with new sieves and classifiers, and the other alterations and improvements made, our machinery is working perfectly.

We are now dressing another parcel of ore for market.

From the appearance of the lodes at their present shallow depth, and their being in virgin ground, I must again say that I consider their present richness to be only a reflection of the vast deposit of metal we shall shortly meet with.

(Signed) THOMAS GLANVILLE.

Further particulars will be forwarded on application to HODGKINSON and Co., Share Dealers, 9, Great Winchester street, London, E.C.

FIVE HUNDRED SHARES, or any portion thereof, can now be had at par, £1 per share, if applied for at once to HODGKINSON and Co., Share Dealers, 9, Great Winchester-street, London, E.C.

MONEY ADVANCED, in sums of £500 and upwards, on FREEHOLD or LEASEHOLD PROPERTY, SHARES, STOCKS, and PERSONAL SECURITY.

Address, THORNYCROFT and Co., Accountants, Mortgage Brokers, Valuers, &c., Brockley Buildings, South John street, Liverpool.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the PARBOLA MINING COMPANY.—By direction of His Honour the Vice-Warden, Notice is hereby given that, on the 29th day of June instant, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will PROCEED to MAKE a CALL of SIX POUNDS FIFTEEN SHILLINGS PER SHARE on all the contributories of the said company settled on the List of Contributories as present members thereof.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.

JOHN HENRY HAMLEY, Official Liquidator.

Dated Stannaries Court Office, Truro, June 15, 1876.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the NEW DOLCOATH TIN AND COPPER MINING COMPANY (LIMITED).—ALL CREDITORS or CLAIMANTS of the above named company who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN AND PROVE THEIR SEVERAL DEBTS OR CLAIMS at the Registrar's Office, Truro, on Monday, the 26th day of June inst., at Eleven o'clock in the forenoon, or, in default thereof, THEY WILL BE EXCLUDED FROM THE BENEFIT OF ANY DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the time and place above mentioned. FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, the 10th day of June, 1876.

IMPORTANT SALE OF A GOING CONCERN.
PEDN-AN-DREA UNITED MINES.

MR. A. BERRYMAN is instructed by the Committee of Management TO SELL, BY AUCTION, on the Mines, at Redruth, Cornwall, on Friday, the 23rd June instant, at Twelve for One o'clock, the UNEXPIRED TERMS of the LEASES of the above-named valuable TIN MINES, together with the PLANT, MACHINERY, and EFFECTS, as a GOING CONCERN. The plant includes—

ONE 70-in. PUMPING ENGINE, and four boilers.
ONE 22-in. horizontal WHIM ENGINE, two boilers, and cage.
ONE 12-in. ENGINE and STONE BREAKER.
ONE 32-in. STAMPING ENGINE, and three boilers, and 48 heads of stamps, axles, &c.; one portable engine; one old boiler; about 250 fms. wire ropes, pulleys, stands, &c.; about 2 fms. whim chain; about 150 fms. of pumps and pitwork; launders, &c.; skips, wagons, and miners', smiths', and carpenters' tools, &c.

There are on the mine—Sheds over stone breaker and dressing floors, carpenters' shop, smiths' shop, sampling house, tin dressing house, arsenic and dressing house, saw house and pit, substantial account house.

The mine is in full working order, and has made very large returns of tin. The monthly sales at present are about 20 tons of tin.

A full inventory may be seen, and particulars of leases and conditions of sale obtained on application to Mr. A. BERRYMAN, Auctioneer, Penzance; Captain TREGAY, on the Mines, Redruth, Cornwall; or at the offices of the company.

8, Austinfriars, London.

IN LIQUIDATION.

CLYNE AND LOWER RESOLVEN COLLIERIES, NEATH, GLAMORGANSHIRE.

MESSRS. FULLER, HORSEY, SON, AND CO. are instructed by the Liquidator of the Welsh Steam Coal Collieries Company (Limited) to SELL, BY AUCTION, on the Premises, Clyne and Lower Resolven Collieries, near Neath, on Tuesday, June 27th and following day, at Twelve o'clock precisely, in lots, the nearly new

FIXED PLANT AND MACHINERY,

LOOSE TOOLS, UTENSILS, and STORES, including a new 400-horse power high and low pressure STEAM ENGINE (see following advertisement); two pairs high pressure WINDING ENGINES, by Galloway and Fletcher and Sons, with cylinders 18 and 12 diameter; a high pressure horizontal PUMPING ENGINE, with 24 in. cylinder; two horizontal and vertical ENGINES; beam STEAM ENGINE, with 20 in. cylinder; five Galloway's patent BOILERS, nearly new, 6 ft. 6 in. diameter, 26 ft. long; three STEAM BOILERS; powerful capstan drum, equal to 40 tons; capstan; seven winding drums; rope pulleys and frames; ventilating fan; donkey pump; hydraulic pump, by Hathorn Davis and Co.; Niagara and universal steam pumps, by Hayward Tyler and Co.; five double purchase crabs; a nearly new 14 horse power double cylinder portable ENGINE, by Clayton and Shuttleworth; cast iron mortar mill, with 7 ft. pan; circular saw bench; 20 tons mining gear; 48 tons new cast iron pipes; 128 tons cast iron pipes and fittings; 12 tons cast iron water pipes; 35 new permanent way rails, with points and crossings; 104 tons tram rails; 6240 timber sleepers; a 20 ton railway wagon weighbridge, Hind's patent, by Kitchen; 12 tons New Staffordshire plate and bar iron; 4 tons steel wire rope; 1100 yards iron ditto; 2 tons chain; rotary coal screens; Tangye's 20 ton hydraulic jack; 7 tons wrought and cast scrap; 97 coal trams; smiths' and engineers' tools; 2 sets of Whitworth's screwing tackle; about 100 loads useful timber, deals and battens; 13,000 fire bricks; 2 useful horses, carts, harness; quantity of stores; 340 tons small coal; office fixtures, and numerous other effects.

There are sidings to both collieries from the Vale of Neath Railway, so that goods can be easily loaded into trucks.

May be viewed Saturday and Monday preceding, and mornings of sale, and catalogues had of HENRY WILSON, Esq., the Liquidator, Bartholomew House, Bartholomew-lane, E.C.; of Messrs. MILLER and MILLER, Solicitors, 5 and 6, Sherborne-lane, E.C.; at the Castle Hotel, Neath; at the Collieries; and of Messrs. FULLER, HORSEY, SON, and Co., 11, Billiter-square, London, E.C.

IN LIQUIDATION.

CLYNE AND LOWER RESOLVEN COLLIERIES, NEATH.

MESSRS. FULLER, HORSEY, SON, AND CO. will INCLUDE in their SALE on Tuesday, June 27, a new 400-horse power differential, expansive, direct horizontal, compound, high and low pressure PUMPING ENGINE, by Hathorn, Davis, Campbell, and Davey (Davey's patent), with cylinders steam jacketed, 34 in. and 64 in. diameter, 7 ft. 6 in. stroke.

May be viewed, and further detailed particulars contained in catalogues, which may be had as in preceding advertisement.

CHROMATE OF IRON.
REDUCED UPSET PRICE.

THIS VALUABLE MINERAL in the extensive COMMONTIES of BALLIASTA and HAROLDSWICK, in UNST, SHETLAND, as formerly advertised, will be RE-EXPOSED within Dowell's Rooms, 18, George-street, Edinburgh, on Wednesday, 28th current, at Two P.M.

Apply to Messrs. STUART and CHEYNE, W.S., 56, Frederick-street, Edinburgh, with whom are the conditions of sale, plans, &c.

SILVER-LEAD MINE.
TO FINANCIERS AND SPECULATORS.

FROM £3000 to £4000 are REQUIRED to DEVELOPE a MINING PROPERTY, which at the depth attained has proved unusually rich for Silver-Lead.

To inspect, and for full particulars, address "X.," MINING JOURNAL Office, 26, Fleet-street, London.

TO INVESTORS.

FOR SALE, in quantities to suit purchasers, TWO THOUSAND fully paid £10 SHARES in a VALUABLE COAL AND COPPER MINE in full work, and paying 7 per cent., with a prospect of constant improvement.

Principals, or their solicitors, only treated with.

Apply to "Y. S. S.," care of Messrs. Deacon, 154, Leadenhall-street, E.C.

TAMAR VALLEY SILVER LEAD MINE, DEVON.

TO BE SOLD, BY PRIVATE TREATY, by the executrix of the late GEORGE PELL, Esq., deceased, all that desirable MINING SETT, situate in the parish of BEERFERRIS, in the county of DEVON, together with the MACHINERY and MATERIALS now in use on the said mine, which will be offered FOR SALE as a GOING CONCERN.

For plans and particulars, apply to WALTER EDDY, Esq., Llangollen; and to view, to Capt. TRURAN, on the Mine.

SPELTER WORKS.

TO BE SOLD, the LEASE and PLANT of the UPPER WORKS, BAGILLT, FLINTSHIRE, extending over about TWENTY-SEVEN ACRES of LAND; also about FOUR AND A QUARTER ACRES of FREEHOLD LAND, and one undivided third part or interest in the DEE BANK WHARF, adjoining the said freehold.

The plant is at present sufficient for the production of 30 tons of spelter per week and may easily be increased (the greater part of the land being let off for farming); there are extensive buildings for storing blende, and heated rooms for making and storing retorts.

The works are now in operation, and with a production of only about 11 tons of spelter per week considerable profit has been realised during the last two years. There are several collieries in operation in the immediate neighbourhood, and the works are within easy reach of the North Wales blende-producing mines.

The freehold land above mentioned almost adjoins the leasehold property, and is bounded on three sides by a large colliery, the Dee Bank Wharf named above, and the River Dee respectively. It is traversed by the Chester and Holyhead Railway, and situated within a few hundred yards of the Bagillt Railway Station. The site is, therefore, an unusually favourable one for the erection of works.

Apply to H. C. CARVER, Llanidloes, Montgomeryshire.

TO CAPITALISTS OR PROMOTERS DESIRING TO MAKE MONEY.

TO BE SOLD, a COLLIERY ROYALTY in NORTH WALES, close to rail or shipping port; several shafts partially sunk; coal fully proved of FOUR SEAMS of good HOUSE and STEAM COALS, in an area of upwards of 400 acres of surface. It adjoins the West Mostyn Coal Field, just successfully launched, where under seams (including Cannel) have been proved in addition to the above; so that eminent engineers state that the available coal in this royalty may be 88 feet thick.

Present holder will arrange to sell the entire to an individual or company for what it has cost him, dividing all profit made above, which, even in a normal state of the coal trade, must be large. Certain and safe surveys by eminent Staffordshire and Welsh engineers have already been made.

Address, "Nil Desperandum," care of Mr. Watson, 15, Fenwick-street, Liverpool.

TO COAL MERCHANTS AND OTHERS.

THE TUNBRIDGE WELLS LOCAL BOARD are prepared to RECEIVE TENDERS for ONE YEAR'S SUPPLY (about THREE HUNDRED TONS) of BEST HARD UNSCREENED TANFIELD MOOR COALS.

The same to be delivered at the Waterworks at Pembury, Kent (about four miles from Tonbridge and Tunbridge Wells Railway Stations), in accordance with the orders of the Engineer.

Tenders to be sent in to me on or before Thursday, 29th June, 1876, endorsed "Tender for Coals."

The lowest or any Tender will not necessarily be accepted.

THOS. LEWIS,
Town Hall, Tunbridge Wells, June 7th, 1876. Clerk to the Local Board.

Royal Cornwall Polytechnic Society.

THE FORTY-FOURTH ANNUAL EXHIBITION will OPEN on TUESDAY, September 5th, 1876.

For Prize Lists and all information apply to the Secretary,
EDWARD KITTO, Polytechnic Hall, Falmouth.

COPPER AND TIN.

THE ADVERTISER wishes to meet with a person who will ASSIST HIM IN DRIVING A DEEP ADIT LEVEL, which is 40 fms. below the surface, on a good lode, which will fall in and intersect other lodes, when it is thought that a great discovery will be made, which will be of great value. The district is the best in Cornwall—viz., Gwennap, near Redruth.

This adit will lay open very large quantities of tin and copper, that can be taken away without steam-engine for a considerable time.

All particulars can be known by applying to "P.," MINING JOURNAL Office 26, Fleet-street, London.

TO CAPITALISTS.

FOR SALE, by Order of the Bankruptcy Court, a very VALUABLE RED IRON ORE MINE, of about 150 acres, upon which above £20,000 has been expended. Price £6000, £4000 of which can remain on mortgage at 5 per cent. per annum.

Full particulars of ARTHUR SHIPPEY and Co., Public Accountants, Weaver's Hall, 22, Basinghall street, E.C.

BARYTES.

FOR SALE, SOME SHARES IN A RICH MINE OF BEST BARYTES.

Direct letters, "A. L. M.," 57, Princes-street, Soho square; or "W. C.," 69, Finsborough-road, West Brompton.

EXTENSIVE COAL FIELD, FLINTSHIRE.

TO BE LET, ON LEASE, with early possession, for a term of 40 years, at a moderate rent and royalty, a large current-going COLLIERY, known as the "HANMER COLLIERY," situate on the River Dee, about nineteen miles from Chester, and half a mile from the Mostyn Station on the Chester and Holyhead Railway.

The coal field is of a very considerable area, and contains several well-known seams of coal. The shafts, machinery, and plant are in good working order, and the colliery is conveniently connected with the railway and shipping place. The lessee can have the option of purchasing the machinery and plant at a valuation. The average sales of coal for the last five years have exceeded 42,000 tons per annum.

For particulars, apply to Mr. ISAAC TAYLOR, Land Agent, Flint; or to Mr. ISAAC SHONE, Mineral Surveyor, &c., Wrexham.

LEAD MINE NEAR CARSPHAIRN, STEWARTRY OF KIRKCUDBRIGHT.

TO BE LET, with immediate entry, and for such number of years as may be agreed upon, the

WOODHEAD LEAD MINE,

On the Craigengillan Estate, situated in the parish of Carsphairn and Stewartry of Kirkcudbright.

This mine was opened in 1838, has been wrought ever since, and has yielded a large quantity of lead of the finest quality. The plant, machinery, &c., can be had at a valuation.

JAMES M'CALL, at the Mine, will show the underground workings, as also the plans and sections; and for further particulars application may be made to ALEXANDER M'CUBBIN, Solicitor, Ayr; or to Mr. THOS. SMITH, Land Steward, Berbeth Mains, Dalmellington, Ayrshire.

Ayr, May, 1876.

FOREST OF DEAN.

VALUABLE IRON MINES FOR SALE.—Some opened and in good working order, others partially developed.

TWO LARGE COLLIERIES FOR SALE.

Reliable information upon Forest of Dean Investments.

WM. HENDERSON, Mining Engineer, Newnham.

SULPHATE OF BARYTES FOR SALE.—Fine powdered, beautifully white; also in the Rock or Crude State, free from Lime and Metallic Oxide.

Samples on application to—
RUTHWAITE BARYTES MINING COMPANY,
Nov. 17, 1875. WHITEHAVEN.

FOR SALE:—

A 40 in. CORNISH BEAM PUMPING ENGINE, 9 ft. stroke in cylinder, and 7 ft. in shaft (by Perran Foundry Company), in good condition.

THREE 30 ft. by 6 ft. 6 in. SINGLE-FLUED BOILERS, with all fittings complete—one of the above nearly new.

ONE 12 in. cylinder HORIZONTAL STEAM CAPSTAN, with drawing gear and drum complete, is equal to new.

Price for the lot as they stand, £480.

Apply—
JAMES PAYNE, WREXHAM.

FOR SALE, a 35-horse power PORTABLE STEAM ENGINE, with link motion reversing gear, ready for delivery.

An 18-horse power VERTICAL STEAM ENGINE, with link motion reversing gear, also gear to wind and pump.

A 9-ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER.

Apply to—
BARROWS AND STEWART, ENGINEERS, BANBURY.

GLASGOW AND THE HIGHLANDS.

ROYAL ROUTE, VIA CRINAN AND CALEDONIAN CANALS, by Royal Mail Steamer, IONA, from GLASGOW, daily at Seven A.M., and from GREENOCK at Nine A.M., conveying passengers for the NORTH and WEST HIGHLANDS.

See Bill, with Map and Tourist Fares, free, at Messrs. CHATTO and WINDUS, Publishers, 74, Piccadilly, London; or by post from DAVID HUTCHESON and Co., 119, Hope-street, Glasgow.

Just published, royal 8vo, strongly half-bound, 30s. (postage 1s.)

THE WEIGHT CALCULATOR; being Tables exhibiting at one Reference the Value of any Weight, from 1 lb. to 15 tons, at 300 rates, from ½d. to 168s. per cwt., and containing 1:6,000 direct answers, or, with a single addition, an aggregate of 10,266,900.

By HENRY HARBEN, Accountant.

An entirely new edition, carefully revised.

"Gives the answers sought more readily than any of its predecessors."—*Mining Journal.*

"Unprecedentedly copious and convenient."—*Produce Markets Review.*

CROSBY LOCKWOOD and Co., 7, Stationers' Hall-court, London, E.C.

MR. W. F. STANLEY, MATHEMATICAL INSTRUMENT MANUFACTURER TO H.M.'S GOVERNMENT, COUNCIL OF INDIA, SCIENCE AND ART DEPARTMENT, ADMIRALTY, &c.

MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every description, of the highest quality and finish, at the most moderate prices.

Price-list post free.

ENGINE DIVIDER TO THE TRADE.

ADDRESS—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

MESSRS. W. J. TALLENTIRE AND CO., STOCK AND SHARE BROKERS.
20, CHANGE ALLEY, CORNHILL, LONDON, E.C.,

Transact business in Stock Exchange Securities and Mining Shares of every description, either for immediate cash or the usual bi-monthly settlements, and also afford advice personally or by letter to executors, trustees, capitalists, and investors of every class in the selection of Securities for safe and profitable investment, their experience of the markets, extending over a period of more than sixteen years, together with special facilities for acquiring information, enabling them to act beneficially for clients.

They have established Corresponding Agencies in all the principal towns of the United Kingdom, and are prepared to deal in the various local Stocks and Shares at close prices. Orders per post or telegraph receive prompt attention.

INVESTORS SHOULD APPLY for a copy of Messrs. W. J. TALLENTIRE and Co.'s Circular, SENT POST FREE. It contains valuable information on Foreign Stocks (especially South American, Egyptian, and Turkish), Railways, and Lead Mines.

MESSRS TREDINNICK AND CO., 79, CORNHILL, LONDON, E.C., DEALERS IN STOCKS, DEBENTURES, AND SHARES.

SHARES WANTED, at full market prices, less 1¼ per cent.:—Van, East Van, Glyn, Penstruthal, Great Laxey, Pateley Bridge, Roman Gravels, Tankerville, and Tincroft; or shares in the London and Westminster, Union of London, London and County, and London Joint Stock Banks exchanged for sound progressive and marketable British Mining Shares.

The misery and confusion wrought by repudiation and depreciated market value of Foreign States and Bonds have effected more loss in a few months than all the mines that have been introduced both at home and abroad during the current century. *Bona fide* and sound progressive Lead Mines are the safest and most expansive investment of the day.

Turks, Peruvian, Egyptian, Spanish, Portuguese, Argentine, Costa Rica, Honduras, and Chilian Bonds taken at the market prices of the day in exchange for shares in any or all recognised Dividend and Progressive Mines.

Messrs. TREDINNICK and Co., 79, Cornhill, London, E.C.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Pr.	Total divs.	Per share.	Last paid
1500	Alderley Edge, c, Cheshire*	10 0 0	—		12 11 8	0 5 0	Jan. 1876
15000	Balmynheer, t, Wendron (4000 to is.)	1 0 0	—		0 2 0	0 2 0	Nov. 1875
.0000	Bampfylde, c, t, mn., Devon*	1 0 0	1¾	1¾ 1⅝	0 2 0	0 2 0	June 1873
400	Botallack, t, c, St. Just§	116 5 0	50	40 45	619 15 0	5 0 0	Aug. 1872
4000	Brookwood, c, Buckfastleigh	1 16 0	2	1½ 2	3 16 0	0 2 0	Nov. 1875
6348	Cargoll, s-l, Newlyn§	6 2 0	—		4 16 3	0 12 6	Oct. 1872
6400	Cashwell, l, Cumberland*	2 10 0	—		1 7 6	0 2 0	Aug. 1875
1000	Carn Brea, c, t, Illogan†	35 0 0	38	36 38	308 0 0	1 0 0	Feb. 1874
6000	Cath. & Jane, l,* Penrhyndendraeth	5 0 0	—		0 7 6	0 7 6	June 1873
2450	Cook's Kitchen, t, Illogan†§	22 9 9	6	3½ 4	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†* §	1 0 0	3½	3½ 4	116 10 0	0 12 0	May 1872
4296	Dolcoath, c, t, Camborne	10 14 10	37	35 37	109 18 9	0 7 6	May 1876
6500	Drake Walls, t, c, Calstock	6 0 0	1	¾ ⅞	0 2 0	0 2 0	July 1874
15000	Duchess of Westminster,* l, Holywell	1 0 0	—		0 3 0	0 2 0	Feb. 1876
10000	East Balleswidden, t, Sancreed*	1 0 0	—		0 2 11	0 0 5	Feb. 1874
6144	East Caradon, c, St. Cleer†	2 14 6	1⅝	1 1⅛	14 19 0	0 2 0	Oct. 1872
300	East Darren, l, Cardiganshire	32 0 0	—		234 10 0	1 0 0	May 1876
6400	East Pool, t, c, Illogan	0 9 9	13½	13 13½	14 12 3	0 2 6	May 1876
1906	East Wheal Lovell, t, Wendron*‡§	6 19 0	2½	2 2½	20 7 6	0 7 6	Oct. 1874
1800	Foxdale, l, Isle of Man*†	25 0 0	—		82 5 0	0 10 0	Feb. 1876
40000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s. p.]		1¼	1 1¼	0 11 10	0 2 0	Jan. 1876
15000	Great Dyliffe,* l, Montgomeryshire	4 0 0	4¼	4½ 5	0 2 6	0 2 6	Apr. 1876
15000	Great Laxey, l, Isle of Man*	4 0 0	17½	17 17½	19 13 0	0 10 0	Apr. 1876
615	Great Retallack, l, bl, Perranzabuloe	5 18 6	2¼	1½ 2	0 1 6	0 1 6	May 1876
25000	Great West Van, l, Cardigan*	2 0 0	⅜	½ ⅝	0 2 0	0 1 0	Aug. 1874
5908	Great Wheal Vor, t, c, Helston†§	41 2 6	¾	½ ¾	15 19 6	0 2 6	June 1872
6400	Green Hurth, l, Durham*	0 6 0	—	3¼ 4	1 12 0	0 4 0	Oct. 1874
20000	Grogwinion, l, Cardigan*	2 0 0	6	5½ 6½	0 5 6	0 2 6	Jan. 1876
4830	Gunnislake (Clitters'), t, c	5 5 0	2¼	2 2½	0 10 9	0 2 0	Mar. 1876
1024	Herodsfoot, l, near Liskeard†	8 10 0	4½	3 3¼	62 5 0	0 15 0	Oct. 1872
18000	Hingston Down, c, Calstock*† (£1 sh.)	2 5 0	⅞	½ ¾	4 4 0	0 1 0	Nov. 1875
25000	Killaloe, sl, Tipperary	1 0 0	—		0 3 11½	0 0 6	Mar. 1873
400	Lisburne, l, Cardiganshire	18 15 0	60	55 60	572 10 0	1 0 0	Mar. 1876
14000	Llanidloes,* l, Montgomery	3 0 0	3½	3 3½	7½ per cent.		Nov. 1875
6120	Lovell, t, Wendron	0 10 0	—		0 17 6	0 1 6	Jan. 1874
9000	Marke Valley, c, Caradon*	5 0 6	2¼	1¼ 2	7 15 0	0 2 0	Jan. 1876
11000	Melindur Valley, l, Cardigan*	3 0 0	—		0 7 2	0 3 7	Jan. 1875
1000	Minera Mining Co., l, Wrexham*	5 0 0	12	15 16	64 16 2	0 6 0	May 1876
20000	Mining Co. of Ireland, cl, c, l*	7 0 0	5⅝	5¼ 5¾	23 11 6	0 3 6	Jan. 1876
512	North Busy, c, Chacewater	3 9 6	2½	2 2¼	0 10 0	0 10 0	Dec. 1875
12000	North Hendre, l, Wales	2 10 0	—		1 2 6	0 2 6	Nov. 1875
2000	North Levant, t, c, St. Just§	12 2 0	—		4 13 0	0 12 0	Sept. 1873
27855	Old Treburgett,* s-l, ordinary shares	1 0 0	—		0 0 9	0 0 9	Feb. 1874
9258	Old Treburgett,* s-l (10 per ct. pref.)	0 10 0	⅛	¼ ½	0 1 4½	0 0 6	July 1874
5000	Penhalls, t, St. Agnes	3 0 0	1½	1 1½	3 13 6	0 2 0	July 1875
45793	Penstruthal, t, c, Gwennap	2 0 0	⅞	¾ ⅞	0 2 8	0 0 8	Nov. 1875
6000	Phœnix, t, c, Linkinhorne§	4 13 4	—		39 19 10	0 4 0	Nov. 1872
18000	Prince Patrick,* s-l, Holywell	1 0 0	—		0 14 0	0 1 3	Jan. 1876
1120	Providence, t, Lelant†§	17 16 7	2¼	2 2¼	104 12 6	0 10 0	Sept. 1872
12000	Roman Gravels, l, Salop*	7 10 0	15½	15 15½	6 4 6	0 8 6	May 1876
512	South Caradon, c, St. Cleer	1 5 0	115	105 110	728 0 0	2 0 0	May 1876
6123	South Condurrow, t, c, Camborne‡	6 5 6	4¼	3¾ 4¼	1 18 6	0 3 6	June 1876
10000	So. Pr. Patrick,* s-l (8000 sh. issued)	1 0 0	—		0 7 0	0 1 0	Oct. 1875
12000	Tankerville, l, Salop*	6 0 0	11	10 10½	4 7 0	0 5 0	May 1876
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	19	18 19	49 8 6	0 5 0	May 1876
15000	Van, l, Llanidloes*	4 5 0	38	36 38	17 9 6	0 16 0	Mar. 1876
3900	W. Chiverton, l, Perranzabuloe†	12 10 0	18	17 18	54 0 0	0 10 0	Apr. 1876
1783	West Poldice, St. Day	10 0 0	—		1 14 0	0 4 0	Feb. 1876
512	West Tolgus, c, Redruth	95 10 0	69	67 69	13 10 0	1 5 0	Apr. 1876
2048	West Wheal Frances, t, Illogan	27 3 9	8	6½ 7	3 12 6	0 5 0	Oct. 1872
12000	West Wye Valley,* l, Montgomery	3 0 0	4	3¾ 4¼	0 3 0	0 3 0	May 1876
512	Wheal Basset, c, Illogan†§	11 2 6	20	17½ 20	638 10 0	1 10 0	Aug. 1872
2048	Wheal Jane, t, Kea	2 13 10	1¼	1 1¼	8 5 0	0 5 0	July 1875
4295	Wheal Kitty, t, St. Agnes	5 4 6	2½	2¼ 2¾	11 19 6	0 2 6	Dec. 1874
80	Wheal Owles, t, St. Just§	86 5 0	—		522 10 0	4 0 0	Aug. 1872
6000	Wheal Prussia, t, Redruth	2 0 0	—		0 3 0	0 2 0	Dec. 1875
25000	Wicklow c, sul, i, Wicklow	2 10 0	1⅞	1⅞ 2	52 9 0	0 2 6	Mar. 1872
10000	Wye Valley, l, Montgomery*	3 0 0	7	6½ 7½	0 6 0	0 3 0	Aug. 1875

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Pr.	Total divs.	Per share.	Last paid
35500	Alamillos, l, Spain*†	2 0 0	2⅛	2 2⅛	1 12 3	0 2 6	Mar. 1876
30000	Almada and Tirito Consol., s*†	1 0 0	⅜	⅜ ⅝	0 6 3	0 1 0	May 1876
20000	Australian, c, South Australia†	7 7 6	2	1½ 2	0 15 6	0 2 0	July 1875
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	¾	½ ¾	0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, g, California*	4 0 0	—	1 1¼	0 14 0	0 2 6	June 1874
6000	Bensberg, l, Germany*	10 0 0	1½	1 1⅛	0 17 4	0 8 0	July 1873
12320	Burra Burra,* c, So. Australia	5 0 0	—		70 0 0	0 10 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa	7 0 0	41	42 44	24 15 0	1 0 0	June 1876
40000	Cedar Creek, g, California*	5 0 0	—	½ ¾	0 5 0	0 2 6	June 1873
80000	Central American Association*†	0 16 6	—		0 6 0	0 1 0	July 1869
15000	Chicago, s, Utah*	10 0 0	6¼	6 6¼	2 0 0	0 4 0	May 1876
21000	Colorado Terrible, s-l, Colorado*†	5 0 0	1¾	¾ 1¼	0 13 6	0 4 0	Jan. 1875
10000	Copiapo, c, Chili* (£20 shares)	16 15 0	—		7 8 5	0 2 6	Jan. 1876
60000	Don Pedro North del Rey*†	0 16 0	⅜	¼ ⅜	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt and Aurora, s, Nevada*†	10 0 0	9	8¾ 9¼	1 0 0	1 0 0	July 1871
50000	Emma,* g, s, Utah	20 0 0	1	¾ 1	3 12 0	0 6 0	Dec. 1872
70000	English and Australian, c† S. Aust.	2 10 0	1⅞	1½ 1¾	2 18 9	0 2 0	Mar. 1876
15000	Ferguson, g, California*	2 0 0	—		0 3 0	0 3 0	April 1872
30000	Flagstaff, s, Utah*	10 0 0	2¼	1¾ 2	4 2 0	0 5 0	July 1873
25000	Fortuna, l, Spain*†	2 0 0	6	5¾ 6¼	5 8 10	0 8 0	Mar. 1876
15000	Frontino & Bolivia, g, New Gran.*†	2 0 0	2¼	2¼ 2½	0 1 0	0 1 0	June 1876
30000	Gold Run, hyd.	1 0 0	¾	½ ¾	0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—		0 2 4	0 0 6	June 1873
20000	Last Chance, s,* Utah	5 0 0	¾	¼ ¾	0 14 0	0 2 0	July 1873
15000	Linares, l, Spain*†	3 0 0	6	5½ 6	15 14 2	0 10 0	Mar. 1876
65000	London and California, g*†	2 0 0	½	¼ ½	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 shares)	3 10 0	1½	1¼ 1½	1 11 6	0 1 6	Mar. 1873
5000	Mammoth Copperopolis of Utah, c, s	10 0 0	—		0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1873
18000	Prussian Mining & Ironworks, cl, i.	80 0 0	—		6 0 0	3 0 0	July 1873
10000	Pontgibaud, s-l, France†	20 0 0	19	16 18	20 14 2	1 3 2	Nov. 1875
100000	Port Phillip, g, Clunes*†	1 0 0	⅜	⅛ ⅜	1 8 0	0 1 0	Jan. 1872
54000	Richmond Consols, s, Nevada*†	5 0 0	9	8 8½	2 14 0	0 7 6	May 1875
40000	Santa Barbara,* g, Brazil	0 10 0	1¼	1½ 2	0 1 3	0 1 3	Apr. 1876
120000	Scottish Australian Mining Co.*†	1 0 0	1½	1⅜ 1¾	15 per cent.		May 1876
80000	Scottish Austral. Mining Co., New	0 5 0	½	¼ ½	15 per cent.		May 1876
112500	Sierra Buttes, g, California*†	2 0 0	1¼	1 1¼	1 14 0	0 2 0	Apr. 1876
60000	South Aurora, s, Nevada*	5 0 0	½	⅜ ½	0 14 2	0 2 0	Nov. 1873
£253000	St. John del Rey*† (£5 stock and multiples dealt in)			250 370	½ year...25 p. ct. for Dec.		1875
15000	Sweetland Creek, g, California*†	4 0 0	1¼	⅝ ⅞	3 6 0	0 2 0	Mar. 1876
20000	Tolima, g, s* So. America	5 0 0	3¾	3 3¼	0 11 6	0 6 6	May 1874
15000	Western Andes, s,* New Granada	5 0 0	—		2 6 7	0 3 3	Apr. 1876

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
20000	Anglo-Australian, g, Victoria*	2 10 0	—		Sept. 1872
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—		Fully pd.
12000	Argentine, g, Argentine Republic	5 0 0	6½	6 6½	Fully pd.
10000	Australian Central, g* (also 6000 deferred shares)	1 0 0	—		Fully pd.
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	—		Fully pd.
30000	Blue Tent, hyd., California	5 0 0	3¼	3 3¼	Fully pd.
50000	Braganza, g, Brazil*†	0 15 0	—		Oct. 1870
12000	Camp Floyd, s, Utah*	10 0 0	—		Fully pd.
35000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	—		Fully pd.
50152	Chontales, g, s, Nicaragua*† (and 12,542 of £1 15s.)	2 0 0	⅜	⅜ ⅝	Fully pd.
6000	Clifton, s, Colorado*	5 0 0	—		Feb. 1872
16000	Condes of Chili, s-l	5 0 0	6½	6 6½	Fully pd.
10000	Crescent, g, Plumas County, California*	10 0 0	—		Fully pd.
45000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—		Dec. 1871
10000	Exchequer, g, s, California*†	1 0 0	2¼	1⅝ 1⅞	Fully pd.
40000	Holcombe Valley, g,* California	1 0 0	—		July 1873
6000	Hornachos,* s-l, (£10 shares) Spain	10 0 0	18	15 18	Jan. 1874
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	—		Fully pd.
100000	I. X. L., g, s, California*	1 0 0	1⅛	1 1⅛	Fully pd.
50000	Javali, g, Nicaragua*	2 0 0	⅛	¼ ⅜	Fully pd.
12000	Lanestosa,* l, z, Viscaya, Spain (£2 shares)	1 15 0	—		Mar. 1876
75000	Malabar, g, Colombia* (65000 issued)	1 0 0	—		Fully pd.
40000	Malpaso, g, Colombia* (10000 pref. shares, fully paid)	1 0 0	—		Fully pd.
12000	Menzenberg, c, Honnef, Germany*	5 5 0	—		Fully pd.
6000	Monte Loreto, g, c, Italy*	5 0 0	—		Fully pd.
66000	New Quebrada, c, Venezuela*	5 0 0	4	3¾ 4¼	Fully pd.
10000	New Rosario, s, Mexico*	1 0 0	—		Fully pd.
20000	New Zealand Kapanga, g, Coromandel*	5 0 0	⅞	¾ ⅞	Fully pd.
3000	Oregon,* g, Oregon, U.S. (preference shares)	4 0 0	4¼	4 4½	Sept. 1875
50000	Panulcillo, c, Chili*† (£80000 debentures)	4 0 0	2¼	1¾ 2¼	Fully pd.
80000	Pestarena United, g, Italy*†	3 0 0	⅜	¼ ⅜	Fully pd.
90000	Rica, g, Colombia* (40000 issued)	1 0 0	—		Fully pd.
£2,1:1,000	Rio Tinto,* c, Huelva, Spain	Stock	58	58 60	Fully pd.
100000	Rossa Grande, g, Brazil*† (£1 shares)	0 19 0	⅛	⅛	July 1872
30000	Russia Copper, Orenburg and Ufa*†	10 0 0	3	2½ 3	Fully pd.
25000	San Pedro, c, Chili*	2 0 0	1½	1¾ 2	Fully pd.
10000	Silver Plume, s, Colorado*	1 0 0	—		Fully pd.
37500	Snowdrift, s, Colorado*	2 0 0	—		Fully pd.
30000	Tecoma, s, Utah*	10 0 0	⅞	½ ¾	Fully pd.
20000	Thornhill Reef, g, Australia*	1 0 0	¼	⅛ ¼	Fully pd.
43174	United Mexican, s, Mexico*†‡	28 15 3	2¾	2 2½	May 1875
14000	Utah, g, s-l, Utah*	5 0 0	—		Fully pd.
25000	Victoria (London)*, g, Australia (25,000 sh. 16s. pd.)	1 0 0	—		Fully pd.
75000	Yorke Peninsula, c, South Australia	1 0 0	½	¼ ½	Fully pd.
40000	Yorke Peninsula, c, South Australia Preference	1 0 0	1	¾ 1	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	57	59
Bolivia, 6 per cent.	17	19
Brazilian, 1865, 5 per cent.	91	93
Chilian, 1866, 7 per cent.	101	105
City of Providence, 5 p.c. coupon bonds	95	97
Egyptian, 1862, 7 per cent.	38	40
Do., 1868, 7 per cent.	40	41
Do., per cent., V.M.L.	39	42
Do., 9 per cent. guar.	46	52
Do, 7 per cent., K.M.L.	37	39
Foreign and Col. Gov. Trust, 5 p. cent.	75	85
Do., 5 per cent., 2d issue	55	65
Do, 6 per cent., 3d issue	60	70
Do., 1872, 4th issue	60	70
Do., 1873, 5th issue	52	60
Peruvian, 1870, 6 per cent.	18	19
Do. 1872, 5 per cent.	13¼	13¾
Russian, 5½ per cent. L. Mort.	81	87
Spanish, Quicksilver Mort., 5 p. cent.	88	90
United States Mort., 6 per cent.	93	95

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Pr.
40000	Aberdaunant, l, Llanidloes*	1 0 0	1⅝	1¼ 1⅜
10000	Aberystwith,* s-l, Cardigan	5 0 0	—	
7800	Alvigg. & Burng.,* t, St. Aust. (£3 sh.)	1 10 0	1¾	1⅝ 1¾
18000	Ambrose Lake, t, c, Liskeard	1 18 6	—	
12000	Assheton, l, Carnarvonshire*	5 0 0	1¾	2⅛ 2⅜
50000	Ballycummisk,* c, Schull	2 0 0	—	
12000	Bedford United, c, Tavistock	1 17 6	1⅛	⅝ ¾
78000	Belstone,* c, Devon (27,000 fully pd.)	1 0 0	3	2¾ 3
15000	Blaen United,* s-l, Cardigan	1 0 0	1⅛	⅞ 1⅛
15000	Blue Hills, t, c, St. Agnes	2 9 0	—	
2000	Bowden Hill,* mn	1 0 0	—	
20000	Brynambor, l, Cardigan	1 0 0	—	
4198	Bwadrain, s-l, Cardigan*	4 0 0	—	
4127	Bwlch Consols, s-l, Cardigan*‡	5 0 0	—	
30000	Caldbeck Fells, l, Cumberland*	2 0 0	—	
5584	Carn Camborne, c, t, Camborne	5 3 6	¼	¼ ⅜
10000	Cathedral, t, c, Gwennap*	1 10 0	1⅞	1⅝ 1⅞
20000	Central Foxdale, l, Isle of Man* (£2 sh.)	1 0 0	—	
10000	Central Van,* l, bl, Llanidloes	5 0 0	—	
20000	Cwm Dwyfor,* c, s-l, Carnarvonshire	1 0 0	—	
15000	Cwm Nant Ddu,* l, Montgomery	1 0 0	—	
3000	Cwmystwith (New) [5l. shares]	4 0 0	—	
10000	Denbighshire Consolidated, l*	3 0 0	3	2 3
653	Ding Dong, t, Gulval	51 9 6	4	3½ 4
10000	Dubby Syke, l, Durham*	0 9 0	¼	⅜ ¾
10000	Duchy Great Consols, c, Calstock	5 0 0	—	
512	East Basset, c, Redruth†‡	77 7 6	2½	2 2½
800	East Black Craig,* l., Scotland	25 0 0	—	
4000	East Chiverton, l, Perranzabuloe	6 12 0	2¼	1¾ 2¼
6000	East Grenville, c, Camborne	7 8 6	—	
30000	E. Nant-y-mwyn,* l, Brecknockshire	1 0 0	⅜	¼ ⅜
6000	East Tywarnhaile, c, St. Agnes	0 10 0	4⅛	4⅛ 4⅜
15000	East Van, l, Llanidloes*	5 0 0	10	9 9½
20000	Elgar,* s-l, Cardiganshire	1 0 0	1¼	1 1¼
13800	Florence and Tonkin United* t.	0 10 0	—	
5000	Frank Mills, l, Christow	5 6 0	⅜	⅛ ⅜
8000	Fronvellan, l, Mont.* [4000 sh. fy. pd.]	1 0 0	—	
3950	Gawton, c, Tavistock	4 . 6	⅝	⅜ ⅝
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	⅞	¾ ⅞
10000	Glan Severn, s-l, Flintshire	1 0 0	—	
2000	Glenroy,* s-l, Isle of Man	4 0 0	8	7 8
10000	Glyn,* l, Llanidloes	2 0 0	3½	3 3¼
15000	Gobbett, t, Dartmoor	1 0 0	—	
12000	Goginan, and Level Newydd, Card., l	2 10 0	—	
100000	Gold, g, Merionethshire	1 0 0	—	
20000	Goreu,* s-l, Carmarthen	1 0 0	—	
7500	Gorsedd and Merllyn Cons., l, Flint	2 10 0	2¾	2½ 3
20000	Gt. East Foxdale, l, I. of Man (1l. sh.)	0 15 0	—	
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	—	
18000	Grosvenor, l, Holywell (£1 sh.)	0 7 0	—	
10000	Harehope Gill,* l, Durham (£1 sh.)	0 3 6	—	
6400	Harwood,* l, Durham	0 15 0	1⅛	⅞ 1
6000	Keswick United, l*	5 0 0	—	
6000	Killifreth, t, Chacewater	1 8 0	1	⅞ 1
25000	Kingston Consols, s-l, Cornwall	1 0 0	⅝	⅜ ⅞
12000	Ladywell,* l, Salop	2 10 0	1½	1⅜ 1½
2500	Levant, c, t, St. Just	9 6 6	—	
64	Llandilo, s-l, bl, Flintshire	50 0 0	—	
15000	Llanlivery Cons., t, c, ars, Llanlivery	1 0 0	1¼	1¼
25000	Llanrhaiadr, l, Montgomery* (£2 sh.)	1 10 0	—	
30000	Llanrwst,* l, Carnarvon	2 0 0	3½	2⅞ 3½
15000	Llwyn Teify,* s l, Cardigan	1 0 0	—	
6000	Medlyn Moor, t, Wendron	1 4 10	1⅝	1½ 1⅝
10000	Mellanear Copper, Hayle*	2 0 0	—	
13000	Monydd Gorddu, l, Cardigan*	5 0 0	4	3½ 4
4000	Nanty, l, Montgomeryshire*	1 0 0	—	
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	—	
12000	Neptune,* c, Perranuthnoe	0 5 0	—	
10000	New Beldon, l, Northumberland*	1 0 0	—	
3000	New Chiverton,* l, Perranzabuloe	6 0 0	6½	6¼ 6½
20000	New Consols, c, Tavistock*	3 0 0	1	½ 1
8000	New Crickheath,* l, Shropshire	2 0 0	—	
8000	New Dolcoath, t, c, Camborne*	3 0 0	1⅛	1 1⅛
20000	New East Foxdale, s-l, Isle of Man	0 15 0	—	
16000	New Fowey Consols, t, St. Blazey*	3 0 0	2	1½ 2
2000	New Hendra, t, Breage	2 9 0	1¼	¾ 1
10000	New North Pool,* c, Illogan	3 0 0	—	
6400	New Pembroke, t, c, Par Station	5 8 0	⅝	½ ⅝
5000	New Rosewarne, c, Gwinear	5 12 0	¾	¼ ½
3200	New South Merllyn, l, Flint*	2 10 0	—	
4000	North Cornwall, l, Cornwall (£5 sh.)	3 0 0	3¼	
17000	North Laxey,* Isle of Man	2 0 0	1	⅞ 1
20000	North Prince Patrick,* l, Holywell	1 0 0	1¼	1 1¼
2000	North Wheal Towan, t, c, Illogan	1 19 6	—	
1000	North Rosewarne, c, Gwinear	6 12 6	—	
8000	North Treleigh Wood, t, Redruth*	1 0 0	1¼	1 1¼
5936	North Treskerby, c, St. Agnes	3 15 4	—	
6000	Old Talargoch, l, Flintshire*	2 0 0	—	
2500	Old Tincroft, c, t, Lelant*	4 0 0	4¾	3 4
16923	Parys Mountain,* c, Anglesea	3 0 0	1	¾ ⅞
4000	Pateley Bridge, l, Yorkshire	5 0 0	4	3½ 4
9530	Pedn-an-drea, t, Redruth§	9 17 0	—	
6000	Pennant, l, bar, North Wales*	5 0 0	5¼	5 5¼
12000	Pennerley, l, Shropshire*	2 0 0	2¼	1⅞ 2⅛
13000	Plynlimmon, l, Llanidloes*	2 5 0	⅝	⅜ ½
648	Polrose, t, Breage	21 0 0	—	
10000	Port Nigel,* s-l, Carnarvonshire	2 0 0	2	1½ 2
2000	Prideaux Wood, t, Llanivery	5 0 0	—	
12800	Prince of Wales, c, Calstock‡	1 9 0	¼	⅛ ¼
6000	Relistian Consols, c, Gwinear	0 10 0	⅞	⅝ ⅞
15000	Rookhope, l, Durham*	1 10 0	1	⅞ 1⅛
5869	Rosewall Hill and Ransom, t	4 17 6	⅜	¼ ⅜
6000	Rosewarne United, c, t, Gwinear	1 10 0	—	
3000	Russell, s-l, Swymbridge	0 6 0	—	
5000	Silvercross,* c, t, Marazion	1 0 0	1⅛	½ ¾
4200	Snowbrook, s-l, Montgomery	5 0 0	—	
12000	South Bwadrain, s l, Llanbadarnfawr	0 10 0	—	
5000	South Carn Brea, c, t, Illogan	3 1 0	1¾	1¼ 1¾
6000	South Cwmystwith, l, Cardiganshire	0 10 0	2½	2 2½
3000	South Darren, l, Cardigan*	1 10 0	—	
512	South Dolcoath, c, t, Redruth	12 5 0	1½	1 1½
12000	South Lisburne, l, bl, Cardigan*	0 12 6	—	
18000	South Roman Gravels, l*	1 10 0	1¼	1 1¼
6000	South Roskear, t, c, Camborne	6 10 0	5	4 5
6000	South Tolcarne, t, c, Camborne	1 9 0	⅜	¼ ⅜
12000	South Van,* l, Montgomeryshire	1 0 0	—	
3000	South Ward, l, Beerferris	5 8 0	1⅛	⅞ 1⅛
937	South Wheal Crofty, c, Illogan	36 0 10	—	
4500	South Wh. Frances, c, Illogan†	6 8 4	1½	1 1½
432	Spearn Moor, t, Penzance‡	46 17 9	—	
14000	St. Blazey t.* (£2 10s. shares)	2 0 0	—	
6000	St. Lawrence, Amal., l, Flintshire*	2 0 0	—	
12000	St. Harmon,* l, Montgom	3 0 0	3¾	3½ 4
10000	St. Patrick, l, Halkin, Holywell*	1 0 0	1½	1¼ 1½
6000	Success, &c., l, Derb. (12,000l. called)	1 0 0	—	
16000	Sunnyside,* l, Durham	2 0 0	3½	
30000	Talybont,* s-l, Talybont	1 0 0	1	⅞ 1
6400	Teesdale,* l, Durham	0 18 0	2½	1⅞ 2
14000	Teign Valley, l, bar., Bridford	1 0 0	—	
10000	Temple, l, Cardigan*	1 0 0	2¼	2 2¼
12000	Treleigh Consols, s-l, St. Ive	0 4 0	⅜	¼ ⅜
5000	Treleigh Wood, t, Redruth	5 11 0	—	
547	Treiyon Consols	15 0 0	⅝	½ ⅝
12000	Trethellan, s-l, Crantock*	2 0 0	—	
4000	Trumpet Consols, t, Helston§	9 0 0	—	
5174	Unity Wood, t, c, Kenwyn	3 18 0	2	1½ 2
20000	Van Consols, l, Llanidloes*	2 10 0	2½	1⅞ 2⅛
1000	Vaughan, s-l, Cardigan	10 0 0	—	
12000	West Assheton, l, Carnarvon	1 0 0	2⅛	1⅞ 2⅜
6000	West Basset, c, Illogan†‡	5 6 8	5½	5 5½
20000	West Bryn Celyn,* l, Flintshire	1 0 0	—	
3000	West Craven Moor, l, Pateley Bridge*	10 0 0	—	10½ 11
12000	West Esgair Lle, l, Card.*	2 0 0	⅝	½ ⅝
5000	West Godolphin, t, c, Breage	1 13 6	1¾	1½ 1¾
12000	West Goginan,* Cardiganshire	2 0 0	2½	2 2½
15000	West Great Work, t, Breage*	1 0 0	1	¾ 1
10000	West Llangynog, s-l, Montgomery	2 0 0	—	
12000	West Maria & Fortescue, t, c, Lamer.	4 12 6	⅜	¼ ⅜
3000	West Mary Ann, l, Menheniot	0 3 6	¼	⅛ ¼
50000	West Milwr, s-l, Flint	1 0 0	—	
12000	West Pant-y-Go, s-l, Flint*	1 0 0	—	
4000	West Pateley Bridge, l, Yorkshire	5 0 0	5¼	5 5½
3000	West Phœnix, t, Linkinhorne	0 18 0	—	
1403	West Polbreen, t, St. Agnes	3 5 0	—	
16000	West Roskear, t, s-l, bl, c, Camborne	0 12 0	3	2½ 3
12000	West Tankerville, l, Salop*	3 0 0	2⅛	1⅞ 2
6000	West Wheal Gorland, t, c	4 0 0	—	
3000	West Wheal Peevor, t, Redruth	0 10 0	—	
600	West Wheal Seton, c, Camborne†	40 0 0	30	25 30
6000	Wheal Agar, c, Illogan	11 10 0	3	2½ 3
6000	Wheal Argus, t, Sancreed	0 10 0	—	⅝ ¾
2500	Wheal Arthur, t, c, Calstock	1 0 0	—	
741	Wheal Basset and Grylls, t	9 18 6	—	
4000	Wheal Coates, t, St. Agnes	2 0 0	—	
6000	Wheal Crebor, c, Tavistock	4 1 0	2½	2 2½
8400	Wheal Emma, t, c, Buckfastleigh	1 10 0	—	
5179	Wheal Grenville, c, Camborne*	11 16 6	1¼	¾ 1
12000	Wh. Mary Hutchings,* t, Plympton	1 14 0	—	
3000	Wheal Peevor, t, Redruth	6 5 0	2⅜	2⅛ 2⅜
4026	Wheal Uny, t, c, Redruth	13 6 6	1⅛	1⅛ 1⅜

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.	Prices.
£100	Abbot, John, and Co. [L.]	£75 0 0	3¼
15	Albion Steel and Wire Co. [L.]	12 10 0	14¼
5	Alltami Colliery Co. [L.]	5 0 0	par
100	Ashbury Co. [L.]	90 0 0	16
10	Bagnall, John, and Sons [L.]	10 0 0	
10	Benhar Coal Co. [L.]	10 0 0	5
50	Bilbao Iron Ore Co. [L.]	50 0 0	par
10	Bilson & Crump Meadow Coll. Co. [L.]	10 0 0	6
4	Blaen Cwmbach Coal Co. [L.]	4 0 0	8
50	Blaenavon Iron and Steel Co. [L.]	50 0 0	par
100	Bolckow, Vaughan, and Co. [L.] A	40 0 0	
50	Bowling Iron Co. [L.]	50 0 0	11
50	Britannia Ironworks [L.]	35 0 0	
50	Brown, Bailey, and Dixon [L.]	40 0 0	
100	Brown, John, and Co. [L.]	70 0 0	33¼
5	Cakemore Colliery Co. [L.]	5 0 0	8
100	Cammell and Co. [L.]	80 0 0	
20	Cannock and Huntington Coal [L.]	2 0 0	5
10	Cardiff & Swansea St. Coal Co. [L.]	8 0 0	
10	Cardigan Steel and Wire Co. [L.]	7 10 0	3¼
10	Central Swedish Iron and Steel [L.]	10 0 0	6¼
5	Chapel House Colliery	5 0 0	1
50	Charlton Iron Co. [L.]	40 0 0	2
50	Chatterley Iron Co. [L.]	40 0 0	33
10	Chillington Iron Co. [L.]	10 0 0	21
1	Clee Hill Colliery Co. [L.]	1 0 0	7
10	Consett Iron Co. [L.]	7 10 0	12
1	Consett Spanish Ore [L.]	1 0 0	¼
50	Cooke, William, and Co. [L.]	30 0 0	30
20	Darlington Iron Co. [L.]	1 0 0	8
50	Davy Brothers [L.]	22 10 0	11
5	Diamond Fuel Co [L.]	4 10 0	
32	Ebbw Vale Co. [L.]	29 0 0	19
100	Fox, Samuel, and Co. [L.]	80 0 0	
10	General Mining Ass. [L.] (£1 returned)	9 0 0	
20	Great Western Coal Co. [L.]	17 0 0	4
2	Gwyngwillim Colliery Co. [L.]	2 0 0	
15	Hopkins, Gilkes, and Co. [L.]	11 0 0	
10	Ifton Rhyn Colliery Co. [L.]	10 0 0	8½
50	Knowles, Andrew, and Sons [L.]	17 0 0	9¼
10	Llay Hall Coal, Iron, & Firebrick [L.]	10 0 0	2⅝
5	Littledean Woodside Coll. Co. [L.]	5 0 0	
50	Llynvi, Ogmore, & Tondu Co. [L.]	50 0 0	27
10	Lyduey and Wigpool Iron Ore [L.]	7 5 0	10
10	Marbella Iron Ore Co. [L.]	10 0 0	7⅝
6	Mersey Steel and Iron Co. [L.]	5 0 0	
10	Midland Iron Co. [L.]	5 0 0	2½
5	Mold Argoed Colliery Co. [L.]	5 0 0	
10	Monkland Iron and Coal Co. [L.]	10 0 0	8⅜
4	Mwyndy Iron Ore [L.]	3 10 0	2
100	Nant-y-Glo and Blaina (8 p. c. pref.)	100 0 0	29
1	Nerbudda Coal and Iron	0 8 0	par
20	New Sharlston Collieries [L.] Pref.	20 0 0	15
10	Newport Abercarn Coal Co. [L.]	8 0 0	
10	Northmptn. Coal, Iron & Wagon [L.]	8 0 0	
10	Northfield Iron Co. [L.]	8 0 0	3¼
1	Norton Green Coal Co. [L.]	1 0 0	
35	Palmer's Shipbuilding and Iron [L.]	25 0 0	15
100	Parkgate Iron Co. [L.]	65 0 0	8
20	Patent Nut and Bolt Co. [L.]	14 0 0	7⅛
20	Patent Shaft and Axletree [L.]	10 0 0	
20	Pelsall Coal and Iron [L.]	15 0 0	4⅛
50	Phœnix Bessemer Co. [L.]	40 0 0	
50	Rhymney Iron Co. [L.]	50 0 0	22
100	Sandwell Park Colliery Co. [L.]	100 0 0	
50	Ditto New	10 0 0	
50	Shotts Iron Co. [L.]	50 0 0	9
100	Sheepbridge Iron and Coal [L.]	55 0 0	12½
50	Silkstone & Dodworth Cl. & Iron [L.]	27 0 0	6
20	Skerne Ironworks [L.]	20 0 0	12⅛
50	Somorrostro Iron Co. [L.]	50 0 0	
20	South Wales Coal Co. [L.]	17 0 0	
100	Staveley Iron and Coal Co. [L.]	60 0 0	32
100	Ditto ditto New	10 0 0	5⅛
20	South Cleveland Ironworks [L.]	20 0 0	
10	Swansea Valley Steam Coll. Co. [L.]	6 0 0	
100	Thames Iron Company	100 0 0	
50	Tredegar Iron and Coal Co. [L.]	12 0 0	2
25	Ditto B. shares	25 0 0	2
20	Ulverston Mining Co. [L.]	12 0 0	1⅞
1	United Bituminous Collieries [L.]	1 0 0	
10	Vancouver Coal [L.]	6 0 0	1⅛
100	Vickers, Sons, & Co. [L.] 6 p. c. deb.	100 0 0	par
50	Welsh Ironworks Co. [L.]	50 0 0	
25	W. Cumberland I. and Steel [L.]	20 0 0	9
10	West Mostyn Coal [L.] (12 p.c. pref.)	5 0 0	
5	West Swansea Colliery Co. [L.]	5 0 0	
10	Whitehaven Iron Co. [L.]	10 0 0	
100	Wigan and Whiston Coal Co. [L.]	70 0 0	
100	Wigan Coal and Iron Co. [L.]	75 0 0	

WAGON COMPANIES.

Shares.	Company.	Paid.	Prices.	
10	Birmingham Wagon Co. [L.]	10 0 0	21	22
20	British Wagon Co. [L.]	10 0 0	3⅜	3⅞ pm.
20	Sheffield Wagon Co. [L.]	15 0 0	3⅜	4⅛ pm.
10	Yorkshire Wagon Co. [L.]	10 0 0	3⅜	4 pm.

TELEGRAPH COMPANIES.

Shares.	Company.	Paid.	Prices.	
"St."	Anglo-American	100 0 0	54¼	55¼
10	Brazilian Submarine	10 0 0	5⅜	5⅝
20	Direct United States Cab'e	20 0 0	6⅞	7⅛
10	Eastern	10 0 0	5⅜	5⅝
10	East. Exten., Australia and China	10 0 0	5⅜	5⅝
10	Great Northern	10 0 0	7	7¼
25	Indo-European	25 0 0	19	20
10	Mediterranean Extension	10 0 0	2⅝	3
8	Reuters	8 0 0	10	11
Stk.	Submarine	100 0 0	193	203
10	West India and Panama	10 0 0	⅝	⅞
20	Western and Brazilian	20 0 0	5⅜	6⅛
$1000	Western Union, 7 per cent. Mort. Bonds	$1000	105	107

MISCELLANEOUS.

Shares.	Company.	Paid.	Prices.	
Stk.	Atlantic and Great Western Leased Lines, Rental Trust	100 0 0	38	40
25	Austral. Mort. Land and Finance [L.]	5 0 0	3¼	3¾ pm.
25	Australian Agricultura	21 10 0	90	92
10	Avonside Engine [L.]	7 0 0	4	2 dis.
Stk.	Baltimore and Ohio, 6 per cent.	100 0 0	110	111
Stk.	Cent. of New Jersey Con. Mort.	100 0 0	94½	95½
Stk.	Cent. Pacific of Calif., 1st Mort. 6 p.c.	100 0 0	98	99
25	City of London Real Property [L.]	12 0 0	par	½
25	Copper Miners of Eng. (7 p. c. pref.)	25 0 0	4	4½
5	Credit Foncier of England [L.]	5 0 0	1	1½
5	Diamond Rock Boring	4 10 0	1¼	¾ dis.
15	English and Foreign Credit	8 0 0	3⅛	2⅞ dis.
15	Foster, Porter, and Co. [L.]	10 10 0	8⅝	9⅜ pm.
5	Gen. Phos. & Chem. Works Co. [L.]	5 0 0		—
1	Glaisdale Whinstone Quarry	1 0 0		—
17	Hudson's Bay Company	17 0 0	17	17½
10	Huntington Copper and Sul. Co.	9 0 0	8⅝	8 dis.
Stk.	Illinois Central, $100 shares	100 0 0		—
Stk.	Illinois & St. Louis Bridge, 1st Mort.	100 0 0	90	93
Stk.	Ditto, 2nd Mort., 7 per cent.	100 0 0	58	62
Stk.	Illinois Cent. Sinking Fund, 5 p. cent.	100 0 0	95½	97½
Stk.	Ditto, 6 per cent.	100 0 0	107	109
7½	Imperial Credit [L.]	7 10 0	7¼	7⅝
—	Ditto, Surplus Certificate	—	4⅛	4⅝
Stk.	Lehigh Val. Con. Mort., A, 6. p. cent.	100 0 0	101	103
10	Milner's Safe [L.]	10 0 0	11	12
25	National Discount [L.]	5 0 0	7¾	8¼
Stk.	N. Cent. Rail. Con. Mort., 6 per cent.	10 0 0	92	93
5	Patent Gunpowder Company	5 0 0	4⅛	4 dis.
50	Peninsular and Oriental Steam	50 0 0	33	35
Stk.	Pennsyl. Gen. Mort. 6 p. cent., 1910	100 0 0	108	109
Stk.	Ditto, Con. Sink. Fund, 6 p. ct., 1905	100 0 0	100½	101½
Stk.	Scottish Aust. Investment Company	100 0 0	160	170
Stk.	Ditto, 6 per cent. Preference	100 0 0	118	123
10	Silber Light (ord. sh.)	10 0 0		—
20	Suez Canal shares	20 0 0	20	21
12	Telegraph Construc. & Mainte. [L.]	12 0 0	22	23
5	Ditto, Second Bonus Three per Cents	5 0 0	2	3⅛
10	Tharsis Sulphur and Copper Co.	10 0 0	19⅝	19⅞
Stk.	Union Pacific Land Grant, 1st Mort.	100 0 0	90	92
Stk.	Union Pacific Railway, 1st Mort.	100 0 0	91	93

b, blende; cl, coal; c, copper; g, gold; l, lead; s, silver; sl, slate; s-l, silver-lead; t, tin; z, zinc.
* Limited Liability Companies; † quoted on the Stock Exchange.
‡ have paid dividends.

London: Printed by Richard Middleton, and published by Henry English (the proprietors), at their office, 26, Fleet Street, E.C., where all communications are requested to be addressed.—June 17, 1876.